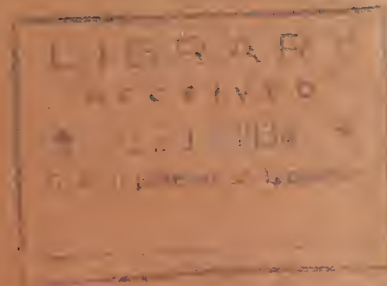


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EXPLANATORY NOTES

OF

INCREASES, DECREASES, AND CHANGES IN LANGUAGES

IN THE BUDGET FOR THE

DEPARTMENT OF AGRICULTURE

FOR THE

FISCAL YEAR ENDING JUNE 30, 1935

AND OF

WORK DONE UNDER EACH OF THE APPROPRIATION ITEMS

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S. BROWN

1. The first part of the paper discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the success of any business or organization. The author provides several examples of how poor record-keeping can lead to financial loss and legal complications.

2. The second part of the paper focuses on the role of the accounting department. It describes the various functions of accountants, including bookkeeping, financial reporting, and tax preparation. The author also discusses the importance of having a qualified accounting professional to oversee the department's operations.

3. The third part of the paper addresses the issue of budgeting. It explains how a well-defined budget can help an organization allocate its resources effectively and avoid overspending. The author provides a step-by-step guide to developing a budget, from identifying goals to monitoring progress.

4. The fourth part of the paper discusses the importance of regular financial audits. It explains that audits help to ensure the accuracy of financial statements and identify any potential areas of concern. The author also discusses the benefits of hiring an external auditing firm to perform the audits.

5. The fifth part of the paper focuses on the importance of maintaining up-to-date financial records. It explains that accurate records are necessary for making informed decisions about the future of the organization. The author provides several tips for ensuring that records are kept current and organized.

6. The sixth part of the paper discusses the importance of having a clear understanding of the organization's financial position. It explains that this knowledge is essential for identifying areas of opportunity and potential risk. The author provides several methods for analyzing financial data, including ratio analysis and trend analysis.

7. The seventh part of the paper discusses the importance of having a strong financial foundation. It explains that a solid financial base is necessary for long-term success. The author provides several strategies for building a strong financial foundation, including diversifying investments and maintaining a healthy cash flow.

8. The eighth part of the paper discusses the importance of having a clear understanding of the organization's financial goals. It explains that these goals should be aligned with the overall mission and vision of the organization. The author provides several methods for setting and measuring financial goals, including SMART goals and the balanced scorecard.

9. The ninth part of the paper discusses the importance of having a strong financial team. It explains that a team of qualified professionals is essential for managing the organization's finances effectively. The author provides several tips for recruiting and retaining top talent, including offering competitive compensation and providing ongoing training and development opportunities.

10. The tenth part of the paper discusses the importance of having a clear understanding of the organization's financial risks. It explains that identifying and managing these risks is essential for ensuring the organization's long-term survival. The author provides several methods for assessing financial risks, including scenario analysis and stress testing.

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1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) and (2) under the assumption that the functions $f_i(x)$ and $g_j(x)$ are continuous and satisfy certain conditions. The main result of this part is the theorem of the existence of solutions.

2. In the second part of the paper, the problem of the uniqueness of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is unique.

3. In the third part of the paper, the problem of the stability of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is stable.

4. In the fourth part of the paper, the problem of the asymptotic behavior of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) tends to zero as $t \rightarrow \infty$.

5. In the fifth part of the paper, the problem of the periodicity of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is periodic.

6. In the sixth part of the paper, the problem of the boundedness of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is bounded.

7. In the seventh part of the paper, the problem of the oscillation of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) oscillates.

8. In the eighth part of the paper, the problem of the monotonicity of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is monotonic.

9. In the ninth part of the paper, the problem of the convexity of solutions is considered. It is shown that under certain conditions, the solution of the system of equations (1) and (2) is convex.

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OFFICE OF THE SECRETARY

(a) Salaries, Office of the Secretary

Appropriation, 1932	\$778,815
Appropriation, 1933	821,547
<u>Appropriation, 1934</u>	<u>731,347</u>

<u>Estimated Obligations, 1934</u>	<u>615,022</u>
<u>Budget Estimate, 1935</u>	<u>548,560</u>

Decrease, Budget 1935, compared with	
Estimated Obligations, 1934	<u>66,462</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Salaries, as per schedules and de- tailed project statement on pages 8-9, of Committee Print, including \$117,598 transferred during 1934 to In- terior Department for building main- tenance, pursuant to Executive Order No. 6166 of June 10, 1933	\$698,387	\$615,022	\$548,560	+\$29,720	-\$96,182(2)
<u>Unobligated:</u>					
Salary reduction	78,425	50,079	-----	-----	-----
Working funds re- duction	44,735	66,246	-----	-----	-----
Total Appropriation ..	821,547	731,347	548,560	-182,787(1)	

of: (1) This reduction of \$182,787 below the appropriation for 1934 consists

Impoundment of 6-2/3% of 15% pay cut	-\$50,079
Curtailments in 1934 working funds	- 66,246
Funds transferred to other appropriations	-135,519
Funds transferred from other appropriations	+ 25,729
New positions (90% salary basis)	+ 13,608
5% salary restoration	+ 29,720
	<u>-182,787</u>

(2) The reduction of \$96,182 in working funds for 1935 includes:

(a) Reduction of \$87,396, which is made possible by the transfer of the guard force of all Washington buildings, except the Weather Bureau group, to the Department of the Interior in accordance with the provisions of Executive Order No. 6166 of June 10, 1933.

(b) Reduction of \$43,013, due to the transfer of the cleaning force to the Department of the Interior as provided in the Executive Order of June 10, 1933.

(c) Reduction of \$5,110, as a result of the transfer to the Weather Bureau of the funds required to maintain four guards and the necessary reliefs, for the protection of the buildings and property on the Weather Bureau reservation. These premises were excluded from the provisions of the Executive Order, being classed as facilities of the work of the Bureau.

(d) An apparent increase of \$16,294, resulting from the transfer of the funds required for the motor transport service and consulting engineer from the appropriation "Compensation, Mechanical Shops and Power Plant." This action is taken to permit the abolishing of that appropriation, the Mechanical Shops having been transferred to the Interior Department.

(e) An apparent increase of \$9,435, due to the transfer with corresponding reduction in the appropriation of the Bureau of Agricultural Economics, of five employees engaged in legal work in connection with the enforcement of the Perishable Agricultural Commodities Act. This transfer is recommended since the Office of the Solicitor handles the legal work under this Act.

(f) An increase of \$11,340 (90% salary basis), to provide for an Under Secretary of Agriculture (\$10,000) and a private secretary (\$2,600). At present there is only one position as Assistant Secretary in the Department of Agriculture, this being the only civilian Department where that is the case, the State Department having 5, the Treasury 4, Justice 7, Post Office 4, Interior 2, Commerce 2, and Labor 2. The tremendous increase in the administrative responsibilities of the Secretary of Agriculture makes it urgently necessary that provision be made for the appointment of an additional assistant of the rank indicated, in order that the business of the Department may be conducted in a prompt and effective manner. This additional position is required for the satisfactory administration of the work of the Department.

(g) An increase of \$2,268 (90% salary basis), to provide for the services of two additional telephone operators. During the past year the volume of telephone business in the Department has increased at an unprecedented rate. For the fiscal year 1933, the number of government and local outgoing calls averaged 23,000 per month. Since that time there has been a steady increase, with the total of such calls reaching a peak of 42,900 for the month of December. The latter represents an increase of 87% as compared with the average number of calls made during the last fiscal year. In addition, it has been necessary to increase radically the period for the operation of the switchboard in order to provide service for the many offices operating at other than regular office hours.

Change in Language

The suggested changes in language are recommended for the following reasons:

(a) To provide for an Under Secretary of Agriculture.

(b) To permit the deletion of the authority previously provided for the cleaning and guarding of the buildings of the Department in Washington. This change is dictated by the transfer of this responsibility to the Department of the Interior in accordance with the provisions of the Executive Order of June 10, 1933.

(c) To make the phraseology with respect to personal services in the District of Columbia and elsewhere conform to the general practice under other appropriations.

Change in Authorization

A reduction of \$3,600 is recommended in the amount which may be expended from appropriations of the Department for allowances for quarters, heat, fuel, and light for employees permanently stationed abroad.

Work Done Under this Appropriation

This appropriation provides salaries for employees of the Office of the Secretary of Agriculture, Under Secretary, Assistant Secretary, the Director of Scientific Work, the Director of Extension Work (office force paid by Extension Service), the Director of Personnel and Business Administration, the personnel, organization and classification offices, the budget, finance, disbursing, and accounting offices, the offices dealing with purchases, sales, and traffic, the division of operation, mails and files, telephone and telegraph, post office, motor transport service, etc., and the Office of the Solicitor. This organization comprises the administration of the scientific, extension, regulatory, personnel, and business activities of the Department and serves in planning the organization of the work, the expenditure of funds, the contracting for the purchase of materials and equipment, the handling of mails and files, the operation of the telephone and telegraph offices, and the initiation and direction of all phases of legal work involved in the Department's activities.

(b) Compensation, Mechanical Shops and Power Plant

Appropriation, 1932	\$125,000
Appropriation, 1933	125,000
Appropriation, 1934	120,960

<u>Estimated Obligations, 1934</u>	<u>112,166</u>
<u>Budget Estimate, 1935</u>	<u>-----</u>

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 112,166

Note: The complete abandonment of this appropriation is recommended. Under the provisions of Executive Order No. 6166, of June 10, 1933, the responsibility for the administration of all buildings and reservations in Washington, D. C., previously under the jurisdiction of the Department, was transferred to the Department of the Interior. In accordance with the terms of the Order, the funds required for the performance of the necessary work were also transferred. In the interests of economy and efficient business administration the transfer of the funds available for obligation during the fiscal year 1934, as indicated below, is recommended in order to permit the complete elimination of this appropriation.

In making the transfer to the Department of the Interior, it proved impractical to separate the personnel engaged in strictly building maintenance operations as differentiated from those performing work ordered by the branches of the Department in connection with its scientific and technical laboratories and other miscellaneous mechanical work not classed as building maintenance. Assurance has been obtained from the officials responsible that the organization will be maintained by the Department of the Interior and that services required by this Department will be performed as heretofore. Difficulties are not anticipated in the performance of non-technical operations, but it is possible that the more exacting requirements of the laboratory and research work may necessitate direct contact with the bureau personnel, in which event it may become necessary to reestablish a central shop organization in the Department of Agriculture for the performance of necessary work not classed as building maintenance.

PROJECT STATEMENT

Project	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Salaries, as per schedules and detail- ed project statement on page 11, Committee Print, including \$86,856 transferred during 1934 to Inte- rior Department for building maintenance, pursuant to Executive Order No. 6166, of June 10, 1933.....	\$95,888	\$112,166	-----	-----	-\$112,166(2)
<u>Unobligated:</u>					
Salary reduction.....	11,702	8,794	-----	-----	-----
Working funds re- duction	17,410	-----	-----	-----	-----
Total Appropriation...	125,000	120,960	-----	-120,960(1)	

(1) This reduction of \$120,960 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$8,794
Funds transferred to other appropriations -112,166

-120,960

(2) The reduction of \$112,166 in working funds for 1935 is recommended in order to permit the complete elimination of this appropriation as follows:

(a) Reduction of \$89,237, for the transfer of the elevator service (\$35,190), the Power Plant (\$29,563), and the maintenance of buildings (\$24,484) to the Department of the Interior, pursuant to Executive Order No. 6166, of June 10, 1933.

(b) Reduction of \$16,294, for the transfer of the funds required for the motor transport service and consulting engineer, to the appropriation "Salaries, Office of the Secretary."

(c) Reduction of \$6,635, and the transfer of this amount to the appropriation "Miscellaneous Expenses". The Department of the Interior plans to continue the operation of the mechanical shops on the previously established basis of reimbursement at actual cost for work performed. The amount indicated is required to permit reimbursement to that Department for necessary job work performed for the Office of the Secretary, not classified as building administration.

(c) Miscellaneous Expenses, Department of Agriculture

Appropriation, 1932 \$289,200
Appropriation, 1933 190,000
Appropriation, 1934 267,254

Estimated Obligations, 1934 267,254
Budget Estimate, 1935 115,048

Decrease, Budget 1935, compared with
Estimated Obligations, 1934 152,206

PROJECT STATEMENT

Project	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Miscellaneous Expenses, Department of Agriculture, including \$110,477 transferred during 1934 to Interior Department for building maintenance, pursuant to Executive Order No. 6166, of June 10, 1933	\$138,124	\$267,254	\$115,048	-----	-\$152,206(2)
<u>Unobligated:</u>					
Working funds reduction.....	51,876	-----	-----	-----	-----
Total Appropriation....	190,000	267,254	115,048	- 152,206(1)	

(1) This reduction of \$152,206 below the appropriation for 1934 consists of:

Reduction in working funds for 1935 - \$41,000
Funds transferred to other appropriations . . . - 117,841
Funds transferred from other appropriations .. + 6,635

- 152,206

(2) The reduction of \$152,206 for 1935 includes:

(a) A reduction of \$117,341, provided by the transfer of this amount to the Department of the Interior for fuel, electricity, cleaning supplies and materials, building maintenance and repair, and for equipment and office supplies for the mechanical shops, power plant, elevator service, and guard service, including \$1,400 provided in a non-recurring item for the procurement of scrubbing machines, pursuant to Executive Order No. 6166, of June 10, 1933.

(b) Reduction of \$13,000, due to the curtailment of the amount required for moving the various offices to quarters in the South Building. During the fiscal year 1934 all of this structure will be occupied with the exception of the major portions of Wings 2 and 3, and the connecting headhouse on B Street. Part of the moving will be accomplished from the American University, a distance of more than six miles, and will, therefore, involve a considerably higher ratio of cost. Based on previous experience, it is believed that the remaining amount available (\$10,000) will be sufficient to provide for necessary transfers to the new quarters during 1935.

(c) Reduction of \$18,000, due to the elimination of this amount from the fund provided for the purchase of window shades or blinds for the new South Building. It is expected that purchases will be completed during the fiscal year 1934 for all of this building except the unfinished portions of Wings 2 and 3 and the B Street headhouse. Due to the failure to complete the structure in accordance with the original schedule, the final purchase cannot be made until next fiscal year. It is believed that the remaining amount available (\$6,000) will be sufficient for the purpose during 1935.

(d) Reduction of \$10,000, resulting from the elimination of the non-recurring item of \$6,500 for changing the electric current characteristics, and from minor savings on other items.

(e) Apparent increase of \$6,635, due to the transfer of this amount from the appropriation "Compensation, Mechanical Shops and Power Plant," with a corresponding decrease in that appropriation. The amount requested is required to permit reimbursement to the Department of the Interior for necessary job work for the Office of the Secretary, not classified as building administration.

Change in Language

(a) Several changes in language are recommended providing for the elimination of authorization for the expenditure of funds for the heating, lighting, and maintenance of structures occupied by the Department in the District of Columbia, due to the transfer of building administration to the Department of the Interior under the terms of the Executive Order of June 10, 1933.



Change in Language (continued)

(b) Authorization is requested for the replacement during the fiscal year 1935 of the automobile which is provided for the use of the Secretary of Agriculture, by the insertion of the words "at a net cost of not to exceed \$3,000," in the proper place.

(c) The substitution of "1935" for "1934" in the language relating to the maintenance and operation of the central storeroom of the Department is recommended in order to provide for the continued operation of the storeroom during the fiscal year 1935.

Work Done Under this Appropriation

This appropriation, as indicated by its terms, provides for a great variety of miscellaneous objects necessary in the conduct of the work of the Department, including stationery, furniture and office equipment and supplies, lumber, hardware, glass, paint, laundry, telegraphing and telephoning, ice, postage, travel expenses, maintenance and operation of motor vehicles, freight, express and drayage charges, and miscellaneous supplies and expenses not otherwise provided for and necessary for the practical and efficient work of the Department. It provides, also, for the compensation of such personnel of the Central Supply Section as may be engaged in the procurement, storage, issue, and shipment of supplies and materials for the several bureaus of the Department, reimbursement being made to this appropriation from the funds of the bureaus for which such service is rendered.



(d) Rent of Buildings in the District of Columbia

Appropriation, 1932\$129,100 (a)
 Appropriation, 1933 70,000
 Appropriation, 1934 45,000

Estimated Obligations, 1934 45,000 (b)
Budget Estimate, 1935 63,000

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 18,000

PROJECT STATEMENT

Project	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Rent of Buildings in the District of Col- umbia	\$69,546	\$45,000(b)	\$63,000	-----	+\$18,000(1)
<u>Unobligated:</u>					
Working funds re- duction	454	-----	-----	-----	-----
Total Appropriation ..	70,000	45,000(b)	63,000	+ 18,000(1)	

(a) Includes \$70,000 in regular appropriation for 1932, \$50,000 supplemental appropriation for 1932 carried in Second Deficiency Act for 1931, and \$9,100 supplemental appropriation for 1932 carried in Second Deficiency Act for 1932.

(b) Exclusive of \$17,300 estimated to be paid from appropriation "Miscellaneous Expenses, Department of Agriculture," for fiscal year 1934.

(1) The increase of \$18,000 in working funds for 1935 is requested in order to provide for the continued occupancy, during the fiscal year 1935, of the structures now rented, as shown in the following statement. This request is made necessary by a combination of circumstances. The building program has not been maintained as originally scheduled and it is estimated that practically a year will elapse before the completion of the final portions of the South Building. In addition, it has been necessary to house the employees of the Agricultural Adjustment Administration in space designed for the use of other branches of the Department. This action was imperative due to the emergency character of the work performed by that organization and the absolute need for close contact with the administrative offices of the Department. This has been accomplished by two and three shift operation and by reducing space assignments to the absolute minimum. It is estimated that this action will result in a direct saving of at least \$150,000 in the expenses of the Adjustment Act during the fiscal year 1934 and a much greater indirect economy because of the facility with which the operations have been conducted.

With the agricultural program planned for continuation during the entire fiscal year 1935, it is not believed that it will be possible for the Department to abandon any of the present rented quarters during the same period and consequently the estimate is on the basis of a full year's rental.

Change in Language

The elimination of the authorization for entering into additional leases, if found necessary, is recommended. If the appropriation requested is granted, it is not believed that the activities of the Department will necessitate rentals in excess of those for which provision has already been made.

Statement Showing Buildings Under Rental by Department of Agriculture During Fiscal Years 1933 and 1934, and Estimated Rentals for Fiscal Year 1935

<u>Building</u>	<u>Bureau Occupying Space</u>	<u>F.Y. 1933</u>	<u>F.Y. 1934</u>	<u>F.Y. 1935</u>
Atlantic Building	Forest Service	\$35,000	\$30,000	\$30,000
McKinley Building	Chemistry and Soils ..	16,000	14,000	14,000
Willard Building	Public Roads	15,000	15,000	15,000
2513 M St., N.W.	Weather Bureau	1,000	1,000	1,000
1004 Eye St., N.W.	Forest Service	1,000	1,000	1,000
918 F St., N.W.	Forest Service	696	696	696
920 F St., N.W.	Forest Service	600	600	600
Earle Building	Home Economics	250	-----	-----
Amount available for emergency rentals and re- conditioning of rented quarters upon relin- quishment		<u>454</u>	<u>4</u>	<u>704</u>
Total		70,000	62,300(a)	63,000

(a) \$17,300 of this amount estimated to be paid from appropriation for
"Miscellaneous Expenses, Department of Agriculture."

Emergency Funds Applicable
under Office of the Secretary.

11

Allotments under the National Industrial Recovery Act, aggregating \$340,800 have been made for the physical improvement of Department buildings, as follows:

Replace obsolete elevator in 300 Linworth Place, S.W.	\$12,000
Install car position indicators and replace guide rails on all elevators in East and West Wings	5,000
Supply reserve rotating elements for all elevators in Department	5,000
Complete the change from direct to alternating current throughout the Department	20,000
Install additional distribution transformers	7,800
Extend fire-alarm system to East and West Wings and 300 Linworth Place, S.W.; also the enlargement of the central fire signal board in Guard Office	20,000
Equip chemical laboratories with explosion and fire- prevention devices	30,000
Provide automatic water sprinkling system and other auto- matic extinguishing systems in basements and sub-basements of permanent structures, also ventilation as required ...	125,000
Erect fire walls, fire doors and provide certain extin- guishing equipment as required for adequate fire pro- tection throughout the Department	25,000
Install incinerator equipment for the disposal of trash ...	6,000
Provide sidewalk at south end of South Building	1,000
Cleaning the marble work on the East and West Wings	6,000
Modernize toilets and cleaning gear rooms in the East and West Wings	10,000
Replace terrazza flooring in corridors of East and West Wings	10,000
Modernize the steam, compressed air and vacuum distributing systems in the East and West Wings	20,000
Painting the interior of the East and West Wings and the Administration Building, where required	30,000
Extend direct current service in the South Building, for apparatus where direct current only can be used and volume when Department laboratories concentrated will justify direct service	8,000
Total	340,800

After these allotments were made, responsibility for building administration and maintenance was transferred to the Department of the Interior pursuant to Executive Order No. 6166, and the bulk (\$338,108) of these funds was therefore transferred to that Department effective November 1, 1933, for expenditure.

Subsequent to the compilation of the Budget, an additional allotment of Public Works funds has been made in the sum of \$10,725 for alterations, installation of additional equipment, etc., in connection with the Department cafeteria.

(a) Salaries and Expenses

Appropriation, 1932.....\$420,961
 Appropriation, 1933..... 410,800
Appropriation, 1934..... 376,287

Estimated Obligations, 1934..... 306,500
Budget Estimate, 1935..... 323,641

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 17,141

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
Obligated:					
Office of Director...	\$22,324	\$20,035	\$22,830	+ \$1,235	+ \$1,560(2)
Personnel and Business Office.....	7,909	9,106	9,811	+ 412	+ 293(2)
Mail and Files.....	16,597	14,693	15,521	+ 828	- - -
Publications:					
Management.....	17,375	16,549	17,346	+ 797	- - -
Editorial.....	19,611	16,060	17,000	+ 940	- - -
Indexing.....	9,422	8,921	9,444	+ 523	- - -
Illustrations.....	21,909	16,482	17,428	+ 946	- - -
Photographic.....	30,203	28,357	29,878	+ 1,521	- - -
Printing.....	10,999	10,383	10,986	+ 603	- - -
Mailing Lists.....	11,243	7,937	8,398	+ 461	- - -
Distribution.....	45,270	35,561	37,226	+ 1,989	- 324(2)
Addressing, Dupli- cating and Mailing.	77,560	69,745	73,472	+ 3,915	- 188(2)
Press Service.....	36,617	27,472	28,705	+ 1,574	- 341(2)
Radio Service.....	25,808	25,199	25,596	+ 1,397	- 1,000(2)
Total.....	\$352,847	\$306,500	\$323,641	+ \$17,141	--
Unobligated:					
Salary reduction.....	38,421	22,842	--	- - -	- - -
Working funds reduction:	19,532	46,945	--	- - -	- - -
Total Appropriation...	\$410,800	\$376,287	\$323,641	- \$52,646(1)	

(1) This reduction of \$52,646 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... - \$22,842
 Curtailments in 1934 working funds..... - 46,945
 5% salary restoration..... + 17,141
 - \$52,646

(2) These increases and decreases in working funds represent changes in allocations for salaries and expenses as between the several units of the Office of Information, to meet changing demands upon the office, but do not represent any increase or decrease of expenditures for the office as a whole in 1935 as compared to 1934.

Work Done Under this Appropriation

The work under this appropriation consists of correlating and disseminating useful information and data developed by the economic, emergency adjustment, research, service, and regulatory programs of the Department. This educational program is carried forward through numerous radio stations, in cooperation with the press, and by issuing technical and popular publications. The Office of Information handles all problems affecting the informational activities of the Department, including the editorial, illustrating, printing, and distribution phases, and supervises the informational activities of the 19 bureaus and offices of the Department. The Office cooperates with 300 radio stations daily, which donate to the Department 35,000 hours of time annually. The Office prepares annually 3,000 separate manuscript radio programs, approximately 1,200 press releases, and edits about 1,600 technical and popular manuscripts. The Office cooperates with all agricultural colleges and experiment stations in maintaining an effective national policy for agricultural information; it also coordinates information of the Department with that of the Farm Credit Administration, Subsistence Homestead Division, Central Statistical Board, and other governmental agencies. In the present emergency, greatest emphasis is placed on economic adjustments to increase the buying power of farm commodities. Because the national farm program depends almost wholly on the voluntary cooperation of producers, the Department must use every means available to acquaint farmers with facts about supply-and-demand maladjustments, prices, and possible remedies; only with such facts at their command can farmers intelligently shape a program to improve their economic status.

(b) Printing and Binding

Appropriation, 1932 \$1,000,000
 Appropriation, 1933 925,000
Appropriation, 1934 850,000

Estimated Obligations, 1934 . . . 610,466
Budget Estimate, 1935 610,466

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)
<u>Obligated:</u>			
<u>Administrative Job Work</u>			
<u>and Binding:</u>			
Binding	\$ 30,428	\$ 26,000	\$ 26,000
Emergency Field Printing.	1,364	2,000	2,000
Job Work	157,631	159,000	159,000
Letterheads	4,708	5,000	5,000
<u>Administrative Reports,</u>			
<u>Periodicals and Publica-</u>			
<u>tions:</u>			
Agricultural Situation...	2,797	3,300	3,300
Annual Reports	9,504	9,500	9,500
Climatological Data	24,656	18,000	18,000
Congressional Documents..	3,033	2,800	2,800
Crops and Markets	27,614	28,000	28,000
Experiment Station			
Record	15,201	17,000	17,000
Extension Service			
Review	2,591	5,500	5,500
Farmers' Bulletin Lists..	3,035	4,000	4,000
Forest Folders	6,796	6,700	6,700
Forest Worker	1,515	1,500	1,500
Indexes	1,230	1,500	1,500
Inventory of Seeds and			
Plants Imported	2,184	2,000	2,000
Journal of Agricultural			
Research	4,586	5,750	5,750
Monthly List of Publica-			
tions	445	900	900

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Projects	1933	1934	1935
		(Estimated)	(Estimated)
Monthly Weather Review.	\$ 6,644	\$ 8,750	\$ 8,750
Monthly Weather Review Separates.....	9,640	1,500	1,500
Official Record	5,249	466	466
Service and Regulatory. Announcements	13,455	15,000	15,000
Unnumbered Publications	16,000	14,500	14,500
Yearbook of Agri- culture	15,445	15,000	15,000
<u>Research and Technical Publications:</u>			
Atlas of American Agriculture	24,424	5,000	5,000
Circulars	14,218	14,500	14,500
Experiment Station Bulletins and Reports	1,946	1,700	1,700
Journal of Agricul- tural Research Separates	15,894	16,000	16,000
Reprints and Revisions of Former Series	1,621	1,500	1,500
Soil Surveys	50,648	40,000	40,000
Statistical Bulletins..	9,026	9,000	9,000
Technical Bulletins....	24,416	28,000	28,000
<u>Popular Publications:</u>			
Clip Sheet.....	3,306	3,100	3,100
Farmers' Bulletins- New	7,389	7,300	7,300
Farmers' Bulletins - Reprints and Revis- ions	112,733	101,500	101,500
Leaflets - New.....	1,331	1,500	1,500
Leaflets - Reprints and Revisions.....	4,863	4,700	4,700
Miscellaneous Pub- lications.....	20,585	20,000	20,000
Posters	218	1,000	1,000
Yearbook Separates	2,465	2,000	2,000
TOTAL.....	660,834	610,466	610,466

Projects	1933	1934	1935
		(Estimated)	(Estimated)
Unobligated:			
Working funds reduction	\$264,166	\$ 239,534	---
Total Appropriation	\$925,000	\$ 850,000	\$ 610,466(1)

- (1) The reduction of \$239,534 below the appropriation for 1934 is brought about through curtailments in 1934 working funds.

The printing and binding estimates for 1935, while identical to the expenditures for 1934, represent a decrease of \$50,368 below the expenditures for 1933, and \$376,534 below the expenditures for 1932.

Job and related printing cannot be postponed to the same degree as technical and popular manuscripts. Regulatory and certain mandatory publications cannot be curtailed to the same degree as others. Consequently, as compared to 1932, large reductions have been made in expenditures for technical and popular bulletins.

Changes in Language

The insertion of new language in the paragraph for Printing and Binding is recommended, as follows:

(a) The language "the purchase of reprints of scientific and technical articles published in periodicals and journals" would enable the Department to obtain for distribution copies of articles which report results of economic and technical research of the Department and which are usually written by members of the Department's staff. With printing funds greatly curtailed, scientists of the bureaus are compelled to give many of their manuscripts to non-governmental journals for original printing in order that there may be a minimum delay in presenting research results to technical workers in agriculture. Most of these non-governmental journals do not supply copies of separates to the Department but they can be purchased at a nominal charge covering press and binding operations. The Department would seldom buy more than two to three hundred copies of such separates. This practice is not a desirable substitute for official printing, but it will be of great assistance during the emergency period when printing funds are curtailed;

(b) The change in language by adding "printing the proceedings of the Twelfth International Veterinary Congress to be held in the United States during the fiscal year 1935, not to exceed \$11,000" is an authorization needed only for the one fiscal year. Representatives of 61 nations will attend this Congress. They will be outstanding men engaged in research and administration of veterin-



ary matters. Carefully prepared papers embodying the latest results of the inquiries of the foremost men of the world along this line will be presented. The printing of these data will be of great value to the livestock industry of the United States. Particularly valuable will be the views of the various delegates on the subject of contagious abortion, a disease which is costing this country \$50,000,000 a year and which will be one of the diseases most discussed at the Congress, with an elaborate symposium on the subject. More work on contagious abortion is being conducted in Great Britain, Germany, Austria, and other foreign countries than in the United States and complete scientific information on this malady may save the expenditure of large sums of money in this country.

To avoid asking for an increase of \$11,000 to cover the cost of printing these proceedings, the Office of Information will further postpone the printing of a comparable amount of its own manuscripts, until the fiscal year 1936.

Work Done Under this Appropriation

The work under this appropriation consists of publishing the results of the economic, scientific research, service, and regulatory work of the Department. Necessary administrative forms, letterheads, certificates, etc., are printed. The various types of published material may be grouped roughly into four classifications: Administrative Job Work and Binding; Administrative Reports, Periodicals, and Publications; Research and Technical Publications; Popular Publications. The first two groups are used primarily to aid the proper administration within the Department itself. Publications falling within the last two classifications are used to furnish economic, scientific and other practical knowledge to farmers, scientists, economists, processors, and the general public.

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LIBRARYSalaries and Expenses.

Appropriation, 1932 \$110,620
 Appropriation, 1933 106,100
 Appropriation, 1934 100,223

Estimated Obligations, 1934 87,551*
Budget Estimate, 1935 87,812

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 261

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimates)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Administrative and Business Service . .	\$24,192	\$14,829	\$15,024	+ \$693	- \$498(2)(a)
Acquisition of publi- cations by purchase, gift and exchange, and preparation of material	42,060	38,159	40,586	+ 1,077	+1,350(2)(b)
Classifying, cata- loguing and indexing of publications . .	16,656	15,722	16,596	+ 874	- - -
Use of the Library (Reader's Division)	15,443	14,739	15,606	+ 867	- - -
Total	98,351	83,449	87,812	+ 3,511	+ 852 (2)
<u>Unobligated:</u>					
Salary reduction . . .	7,290	4,708	- - -	- - -	- - -
Working funds reduction	459	7,964	- - -	- - -	- - -
Transferred to Depart- ment of the Interior (part-year basis) . .	- - -	4,102	- - -	- - -	- - -
Total Appropriation . . .	106,100	100,223	87,812	- 12,411 (1)	

*Includes \$4,102 transferred to Department of the Interior in connection with building maintenance service.

(1) The reduction of \$12,411 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$4,708
Curtailments in 1934 working funds	- 7,964
Transferred to the Department of the Interior (full-year basis)	- 4,600
5% Salary restoration	+ 3,511
Error in compilation	+ 1,350
	<u>-12,411</u>

(2) There is an apparent increase of \$852 in the working funds, as follows:

(a) A decrease of \$498, which is the difference between \$4,102 transferred to the Interior Department for building maintenance service covering the period August 10, 1933 to June 30, 1934 and \$4,600 dropped from the 1935 estimates for the Department of Agriculture as the amount covering this item for an entire fiscal year, the service now being rendered by the Interior Department.

(b) An increase of \$1,350, due to an error in compilation.

Work Done Under This Appropriation

This appropriation is used for four main purposes, as follows: (1) For the acquisition of publications needed in the work of the Department; (2) for the work of entering these publications in the permanent catalogues and other records of the Library; (3) for the reference and bibliographical service necessary to make these publications readily available to users of the Library, and (4) for the circulation of material to Department workers and to other libraries and research institutions of the city, and particularly to the State agricultural college and experiment station libraries.

Emergency Funds Applicable Under This Heading

An allotment of \$2,650 under the Civil Works Administration has been made to the Library for the rehabilitation of library collections. These funds were made available and will be obligated during the fiscal year 1934.

OFFICE OF EXPERIMENT STATIONS

(a) Payments to States, Hawaii, and Alaska
for Agricultural Experiment Stations,
under Hatch, Adams, Purnell, and related Acts.

Appropriation, 1932.	\$4,357,000
Appropriation, 1933.	4,374,000
Appropriation, 1934.	4,381,000

Estimated Obligations, 1934.	4,381,000*
Budget Estimate, 1935.	3,291,000

Decrease, Budget 1935, compared with Estimated Obligations, 1934.	<u>1,090,000</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Decrease
<u>Obligated:</u>				
Hatch Act.	\$720,000	\$720,000	\$540,000	- \$180,000
Adams Act.	720,000	720,000	540,000	- 180,000
Purnell Act.	2,880,000	2,880,000	2,160,000	- 720,000
Hawaii Station Act .	24,000	26,000	21,000	- 5,000
Alaska Station Act .	15,000	15,000	11,250	- 3,750
Puerto Rico Station Act.	- - -	20,000	18,750	- 1,250
Total.	4,359,000	4,381,000*	3,291,000	- 1,090,000 (1)
<u>Unobligated:</u>	15,000	- - -	- - -	- - -
Total Appropriation. .	4,374,000	4,381,000*	3,291,000	- 1,090,000 (1)

* The total for 1934 is subject to a reduction of 25 percent, as provided by Executive Order No. 6166 of June 10, 1933, but the effective date of this reduction is deferred by Executive Order No. 6221 of July 26, 1933, until 60 days after the convening of the second session of the 73d Congress. The amount of the reduction is therefore indefinite.

The total for 1934 also includes \$20,000 appropriated under the Puerto Rico Station Act of March 4, 1931. In view of the failure of the Legislature and Government of Puerto Rico to complete prior to July 1, 1933, the action contemplated by Sec. 1 of this Act (see "Work Done under This Appropriation," which follows) the Secretary of Agriculture necessarily withheld certification of the 1934 payments authorized by the appropriation. The Adams and Purnell Acts (Sec. 4) authorize the Government of Puerto Rico to appeal to Congress from the determination of the Secretary of Agriculture, and if the Congress does not, at the next (present) session, direct the payment of the sum thus withheld, it shall be covered into the Treasury.

preceding year; 1937, \$50,000; 1938 to 1941, inclusive, \$10,000 increase each year over the preceding year; and thereafter \$20,000 per year.

The Alaska Station Act approved February 23, 1929 (U.S.C., Supp. VI, title 7, sec. 386c) provides that the Act of March 2, 1887, as amended and supplemented, and known as the Hatch Act, and the Act approved May 8, 1914, and known as the Smith-Lever Act, be and the same are hereby extended to the Territory of Alaska: "Provided, That no appropriations shall be made under this Act until annually estimated as to funds and amounts by the Secretary of Agriculture; the estimates to be based upon his determination of the ability of the Territory of Alaska to make effective use of the funds."

The Puerto Rico Station Act approved March 4, 1931 (U.S.C., Supp. VI, title 7, secs. 386d-386f), provides as follows: "That beginning with the fiscal year ending June 30, 1933, the Territory of Porto Rico shall be entitled to share in the benefits of the Act entitled 'An Act to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an Act approved July 2, 1862, and of the Acts supplementary thereto,' approved March 2, 1887, as amended and supplemented, and of the Act entitled 'An Act to provide for cooperative agricultural extension work between the agricultural colleges in the several States receiving the benefits of an Act of Congress approved July 2, 1862, and of Acts supplementary thereto, and the United States Department of Agriculture, approved May 8, 1914, and of Acts supplementary thereto: Provided, That the experiment station so established shall be connected with the College of Agriculture of the University of Porto Rico and it shall be conducted jointly and in collaboration with the existing Federal experiment station in Porto Rico in enlarging and expanding the work of the said Federal station on cooperative plans approved by the Secretary of Agriculture; and the Secretary of Agriculture shall coordinate the work of the Territorial stations with that of the Federal station and of the United States Department of Agriculture in the island: Provided further, That the several experiment stations now conducted by the insular government shall be transferred to and coordinated with the experiment station of the College of Agriculture of the University of Porto Rico, together with whatever funds that are available for the support of the same, and the Secretary of Agriculture may at his discretion transfer such land, buildings, and equipment as he may deem necessary to the experiment station of the College of Agriculture of the University of Porto Rico: Provided further, That the Territory of Porto Rico shall make provision for such additional buildings and permanent equipment as may be necessary for the development of the work."

"SEC. 2. To carry into effect the above provisions for extending to Porto Rico the benefits of the Act of March 2, 1887, and supplementary Acts in the order and amounts designated by these Acts, the following sums are hereby authorized to be appropriated in addition to the amounts appropriated to the Department of Agriculture for use in Porto Rico: \$15,000 for the fiscal year ending June 30, 1933; \$20,000 for the fiscal year ending June 30, 1934; \$25,000 for the fiscal year ending June 30, 1935; \$30,000 for the fiscal year ending June 30, 1936; \$35,000 for the fiscal year ending June 30, 1937; \$40,000 for the fiscal year ending June 30, 1938; \$45,000



for the fiscal year ending June 30, 1939; \$50,000 for the fiscal year ending June 30, 1940; \$60,000 for the fiscal year ending June 30, 1941; \$70,000 for the fiscal year ending June 30, 1942; \$80,000 for the fiscal year ending June 30, 1943; and \$90,000 for the fiscal year ending June 30, 1944, and thereafter a sum equal to that provided for each State and Territory for agricultural experiment stations established under the Act of March 2, 1887.

"SEC. 3. The permanent annual appropriation provided for in section 3 of said Act of May 8, 1914, and of Acts supplementary thereto are hereby authorized to be increased by an amount necessary to carry out the provisions of this Act, but without diminishing or increasing the amount of which any State or the Territory of Hawaii is entitled under the provisions of said Act of May 8, 1914, and of Acts supplementary thereto; Provided, That for the fiscal year 1933 the total amount available to the Territory of Porto Rico under the terms of the Act of May 8, 1914, shall be \$50,000, this amount to be increased by \$10,000 annually, or such part thereof as may be necessary, until the total to which Porto Rico is entitled under the provisions of this Act is reached. Participation in other Federal appropriations for cooperative extension work, including those authorized by the Act of May 22, 1928, shall be at such time and in such amounts as shall be estimated by the Secretary of Agriculture and appropriated by the Congress."

To date no work has been done and no expenditures made under the Puerto Rico Station Act. Section 1 of the Act contemplates certain action by the Legislature of Puerto Rico and by the insular government. This action was not completed before July 1, 1933, and the Secretary of Agriculture therefor withheld his certification of the appropriation for 1934, in accordance with provisions of the Adams and Purnell Acts (Sec. 4 of each Act) which require that the Secretary of Agriculture must certify to the Secretary of the Treasury on or before July 1 as to each State or Territory which is entitled to receive its share of the annual appropriations for agricultural experiment stations. Under this provision of the Adams and Purnell Acts, the action of the Secretary of Agriculture in withholding the 1934 payment is subject to appeal by the Government of Puerto Rico to the Congress, and if the Congress does not at its next (present) session direct the payment of the sum so withheld, the money will revert to the Treasury. Since July 1, 1933, the Legislature and Government of Puerto Rico have taken action in compliance with the provisions of Sec. 1 of the Puerto Rico Station Act (quoted above), so that the Secretary of Agriculture can certify the funds for 1935 if the appropriation is made in accordance with the terms and authority of the Act of March 4, 1931.

(b) Supervision of and Relation
with Agricultural Experiment Stations.

Appropriation, 1932 \$169,380
 Appropriation, 1933 160,734
Appropriation, 1934 148,831

Estimated Obligations, 1934 130,070
Budget Estimate, 1935 137,125

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 7,055

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Supervision of and re- lation with stations . .	\$134,993	\$130,070	\$137,125	+ \$7,055	---
<u>Unobligated:</u>					
Salary reduction	14,234	9,059	----	---	---
Working funds reduction	11,452	9,702	----	---	---
Total Appropriation	160,734	148,831	137,125	- 11,706(1)	

(1) This reduction of \$11,706 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$9,059
 Curtailment of 1934 working funds - 9,702
 5% salary restoration + 7,055
 - 11,706

Work Done Under This Appropriation

This appropriation is used for three purposes:

(1) For administration of the Acts of Congress (Hatch Act of 1887, Adams Act of 1906, Purnell Act of 1925 and Acts amendatory or supplementary thereto, Hawaii Station Act of 1923, Alaska Station Act of 1929, and Puerto Rico Station Act of 1931) making appropriations for the support of agricultural experiment stations in the States and Territories, (2) for assisting in co-ordination of the research work of the Department of Agriculture with that of the State stations along the same lines, and (3) for administration of the Federal agricultural experiment stations in Hawaii and Puerto Rico.

Administration of the acts granting Federal funds to States and Territories involves supervision of the funds, close advisory relations with the stations as to research for which the funds are expended, annual examination of the work and expenditures of each State station, preparation and issuance of the Experiment Station Record and other records, and preparation of report to Congress on the work and expenditures of the stations as called for in the acts.

The Federal grants are largely expended on research which is outlined and submitted to the Office of Experiment Stations for advisory suggestions and approval in advance of expenditures. Annual budgets of proposed expenditures on the Federal funds are submitted by each station for review and approval of proposed work and expenditures at the beginning of the fiscal year. Changes and adjustments in work to best meet the State needs are submitted throughout the year. About 1,600 research projects were thus submitted for review and approval during the fiscal year 1933.

To carry out the provisions of the Federal Acts a representative, or representatives, of the Office visits each of the 50 State stations annually and spends from three to ten days reviewing the expenditures and the research under way.

In connection with the review of proposed projects and the personal annual examination at each station, as well as through membership on national committees representing the stations, close advisory relations are maintained on correlation and cooperation in research to avoid unnecessary duplication among States and between the States and the Department of Agriculture, and advisory relations on matters of organization and policy. During the fiscal year 1933 there were 800 to 1,000 cooperative investigations between State stations or State stations and the Department of Agriculture which were carefully planned by the cooperating agencies and made matters of written cooperative agreement.

The Experiment Station Record was established in 1889 as a part of the Federal-State joint participation in establishing and maintaining agricultural experiment stations. Its purpose is to make available to staff members of all stations and the Department abstracts of current published results of research in this and other countries promptly as an aid in planning research, avoiding duplication, and in coordinating research effort. A total of 5,500 to 7,500 such abstracts are prepared, edited, and published annually, involving translations from twelve or more languages. The abstract volumes are supplemented by indexes and a combined index for each ten volumes to aid in using the increasing volumes of research findings. Few, if any, of the stations have all the publications available, and the abstracting by the Office of Experiment Stations avoids the necessity of duplicate abstracting by the several thousand research workers. As a part of this function, the Office represents the Department's cooperation with Biological Abstracts to the extent of furnishing copies of abstracts of publications by the State stations and the Department and some technical personnel and supplies.

In the interest of all the stations and the Department, the Office, as a central agency, is called upon to compile and make available lists of all current research projects, lists of research workers in different lines,



and combined statements of research and its progress in special fields, and to act as a general clearing house for inquiries concerning the agricultural experiment stations.

Based upon the foregoing activities throughout the year, an annual report on the work and expenditures of the agricultural experiment stations is prepared for Congress as provided for in the Federal Acts.

Administration of the Federal stations in Puerto Rico and Hawaii involves approval of budgets, expenditures, and research projects, review, editing, and approval of publications, advisory assistance relating to coordination of the research with that of the Territorial agencies and the Department, and general supervision of personnel and administration. Owing to the cost of travel and limited funds, personal inspection and direction by the Office is rarely possible.

(c) Insular Agricultural Experiment Stations

Appropriation, 1932 \$230,030
 Appropriation, 1933 133,560
Appropriation, 1934 78,130

Estimated Obligations, 1934 68,600
Budget Estimate, 1935 64,977

Decrease, Budget 1935, compared with
 estimated obligations, 1934 3,623

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Hawaii Station . .	\$37,012	\$31,800	\$31,162	+ \$1,452	- \$2,090 (2)
Puerto Rico Sta- tion	40,449	36,800	33,815	+ 1,715	- 4,700 (3)
Closing Alaska, Guam, and Virgin Islands Stations	6,153	- - -	- - -	- - -	- - -
Total	83,614	68,600	64,977	+ 3,167	- 6,790
<u>Unobligated:</u>					
Salary reduction.	6,163	6,821	- - -	- - -	- - -
Working funds re- duction	43,783	2,709	- - -	- - -	- - -
Total Appropriation	133,560	78,130	64,977	- 13,153 (1)	



(1) This reduction of \$13,153 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$6,821
Curtailment in 1934 working funds	- 2,709
Reduction in working funds for 1935 (\$2,090 for Hawaii Station and \$4,700 for Puerto Rico Station)	- 6,790
5% salary restoration	+ 3,167
	- <u>13,153</u>

The reduction in working funds for 1935 includes:

(2) A decrease of \$2,090 for the Hawaii Station. This decrease is partially offset by the increase of \$1,500 (75% of the \$2,000 increase authorized for 1935 by the Act of May 16, 1928) to the Territorial experiment station under the Hawaii Station Act.

(3) A decrease of \$4,700 for the Puerto Rico Station. This decrease is partially offset by the increase of \$3,750 (75% of the \$5,000 increase authorized for 1935 by the Act of March 4, 1931) to the Territorial station under the Puerto Rico Station Act.

Work Done Under This Appropriation

The agricultural experiment stations in Hawaii and Puerto Rico were established to determine the agricultural possibilities of the two Territories, to improve and diversify their agriculture, and to develop types of agriculture adapted to different regions.

Hawaii Station: The Hawaii Experiment Station at Honolulu, which is now maintained in cooperation with the University of Hawaii, is concerned with problems relating to the diversification of agriculture and the establishment of industries other than sugar and pineapple production. These major industries have their own experiment stations. Close cooperation is maintained with them on problems of mutual interest. Soil and crop work, horticultural investigations, crop utilization, chemical studies of soils, plant breeding, forage crop studies, dairying, and livestock management constitute the principal activities of the station. These studies are designed to aid the so-called small farmer as contrasted with the plantation system. In the station work, substations have been established on other islands and at greater elevations than the main station for developing systems of agriculture adapted to large areas that are not now profitably utilized. The possibility of extending pineapple cultivation at about 1,000 feet elevation higher than formerly thought possible has been definitely proven. Through the cooperation of territorial officials and private individuals, experiments have been begun at various elevations up to 5,500 feet. If these prove successful, large areas in the islands can be brought under cultivation. This is very important, as much of the land suited to present agricultural use is under the control of large corporations. Experiments have been begun for the assistance of the coffee industry and a beginning has been made, in cooperation with the Office of Foreign Plant Introduction, U.S. Department of Agriculture, to bring together plantings of all available economic tropical plants to study their requirements and adaptability to Hawaii and to limited regions in the United States.

Puerto Rico Station: The agricultural experiment station maintained by this Department at Mayaguez, Puerto Rico, is aiding in the improvement and diversification of the agriculture of the island. Its principal lines of work are connected with livestock improvement, crop improvement, introduction of new tropical crops, coffee, citrus fruit and pineapple studies, plant diseases and insect pest control, soils and fertilizers, and animal parasites. The station's work on the control of some animal parasites has resulted in extending stock production. The introduction of new forage plants has yielded more feed for stock, and the wide adoption of cover plants for soil conservation and improvement is a direct result of station work. The plant breeding work with sugar cane and corn has yielded important results. Some of the new cane varieties produced by hybridizing are exceedingly promising, yielding more than the standard varieties. A number of these hybrids are under commercial test on several plantations this year. About 5,000 acres were planted to Mayaguez 28, one of the promising new sugar canes of the station, by the end of 1933. The coffee investigations include studies of varieties, methods of planting, pruning, and use of fertilizers, all of which are necessary to the permanence of agriculture in a large part of the island. Cooperative investigations with citrus fruits and pineapples are in progress. Through its introduction of tropical horticultural crops, interest in them has been aroused. The station is actively engaged in various undertakings that are expected to aid in the Governor's campaign for improving local conditions.

Emergency Fund Applicable Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$4,950 have been made for physical improvements as follows:

1. Hawaii Station, \$1,200, consisting of \$200 to replace a water storage tank and \$1,000 to replace the present dirt and gravel road from the station to city street with asphalt or macadam base road;
2. Puerto Rico Station, \$3,750, consisting of \$1,500 to replace roadways, \$900 to repair, replace and extend fences, and \$1,350 to clear land for experiment purposes.

Limitation on Purchase of Passenger Carrying Vehicles

Continuation of the purchase authorization of \$750 is provided for in order that an additional automobile needed at the Puerto Rico Experiment station may be purchased during 1935 if the funds permit during the year.

(d) Closing of Alaska, Guam, and Virgin Islands Experiment Stations

In the Appropriation Act for the Department of Agriculture for 1933 (Pub. 269, 72nd Congress, page 6), the sum of \$30,000 was granted for the payment of expenses incident to closing of the experiment stations in Alaska, Guam, and the Virgin Islands and the salaries of the employees of said stations appointed from the continental United States, including salaries during such leave as may be granted under the Acts approved June 30, 1914, and July 24, 1919 (U.S.C., title 5, secs. 535 and 536).

The Virgin Islands station was transferred to the Department of the Interior on July 8, 1932, provision for its maintenance having been made in the Appropriation Act of that Department for 1933. The Guam station was placed in the temporary custody of the Governor of Guam on July 6, 1932, and by him it was transferred to the Island Government for use as an agricultural school on July 27, 1932. The Matanuska station was transferred to the Alaska College of Agriculture and School of Mines on July 23, 1932. The property of the Sitka and Juneau stations was placed in the custody of Charles H. Flory, Ex-officio Commissioner for the Department of Agriculture for Alaska, as the representative of the Secretary of Agriculture, on June 30, 1932.

There still remains to be paid the claims for accumulated leave to which the personnel are entitled under the Acts providing for such leave and the express provisions of the Appropriation Act of July 7, 1932. The estimated amount of these claims, according to data available, is about \$8,000, but there is some question regarding the total, as the time records have not been checked absolutely and some of the employees may not be entitled to the sum which is credited to them.

In the opinion of the Comptroller General of the United States, the claims presented on account of such accrued leave could not be paid due to certain provisions of the Economy Act (Public No. 212, approved June 30, 1932, 47 Stat. 400). The Treasury-Post Office Departments Appropriation Act for the fiscal year 1934, passed by Congress and approved March 3, 1933, contained modification of Sections 103 and 215 of the Economy Act, which it was thought would again authorize the payment of the claims for accrued leave. Later, however, these modifications were repealed by "An Act to maintain the credit of the United States Government (Public No. 2)," generally referred to as the Second Economy Act, passed by Congress and approved March 20, 1933.

It necessarily followed that unless and until further legislation specifically authorizing payment for this accumulated leave is enacted, the individual claims could not be paid.

Payments to States, Hawaii, Alaska and Puerto Rico
for Agricultural Extension Work.

General Statement

Funds available for direct payments to the States, Hawaii, Alaska and Puerto Rico for cooperative agricultural extension work for 1934 total \$8,738,096, subject to reduction of 25 per cent from March 4 to June 30, 1934, by Executive Orders No. 6166 and No. 6221. Pursuant to Section 18 of the Executive Order No. 6166 of June 10, 1933, a reduction of 25 per cent has been made in the estimates for payments to the States and Territories for extension work for 1935. As provided by the Act of March 4, 1931 (Public No. 846- 71st Congress), entitled "An Act to coordinate the Agricultural experiment station work and to extend the benefits of certain Acts of Congress to the Territory of Puerto Rico," the permanent annual appropriation (Smith-Lever Act) has been automatically increased by \$10,000, after which the 25 per cent reduction has been computed. The total of funds requested for payments direct to the States, Hawaii, Alaska and Puerto Rico for 1935 consequently is \$6,561,072.

In addition to the sums indicated above for 1934, there was available to the States, Hawaii, and Puerto Rico from appropriations direct to the Department of Agriculture (Farmers' Cooperative Demonstrations and Clarke-McNary forestry funds) a total of \$823,432, making the total funds available to the States and Territories for 1934, \$9,561,528. Under the estimate for 1935 the Department's contributions to States and Territories under the appropriation for Farmers' Cooperative Demonstrations will be reduced by \$505,368, thus bringing the allotments from direct Department funds to a total of \$318,064.

The payments to the States, Hawaii, Alaska and Puerto Rico proposed for 1935, therefore, will total \$6,879,136, or a net decrease of \$2,682,392. The use of this money is indicated in greater detail by the following Tables 1 and 2.

Table 1. Statement showing appropriation items and amounts available to the States in 1933, 1934, and estimated for 1935.

Item	Appropriation 1933	Appropriation 1934	Budget Estimate 1935
<u>Payments to States, Hawaii, Alaska and Puerto Rico for agricultural extension work:</u>			
Supplementary Smith-Lever.....	\$1,580,000	\$ 1,580,000	\$ 1,185,000
Capper-Ketcham (Act of May 22, 1926)...	1,480,000	1,480,000	1,110,000
Alaska (Act of February 23, 1929).....	12,000	12,000	9,000
Additional Cooperative Extension Work.	1,000,000	1,000,000	750,000
Total Agricultural Act.....	4,072,000	4,072,000	3,054,000
Permanent Annual Smith-Lever Approp- riation.....	4,656,096	4,666,096	3,507,072
Total payments made directly to States..	8,728,096	*8,738,096(4)	6,561,072
<u>Amounts allotted to States but disbursed by Department of Agriculture:</u>			
Farmers' Cooperative Demonstrations:			
Cooperative Extension Work.....	\$ 870,075	\$ *740,290(1)(3)	\$ *235,652(2)(3)
Reclamation demonstrations.....	39,100	* 32,460(1)	* 31,730(2)
Cooperative Farm Forestry (Clarke- McNary Act of June 7, 1924).....	62,310	* 50,682(1)	* 50,682(2)
Total allotments to States by Department	\$ 971,485	\$ 823,432	\$ 318,064
Total of direct payments to States and Territories, and Department allotments to States and Territories.....	9,699,581	9,561,528	6,879,136

*(1)- Personal Services are subject to 15% legislative reduction in compensation for 1934.

*(2)- Personal Services are subject to 10% legislative reduction in compensation for 1935.

*(3)- Includes approximately \$22,000 for field envelope supplies.

*(4)- Subject to 25% reduction for payments covering the period from March 4 to June 30, 1934, pursuant to the provisions of Executive Orders Nos. 6166 and 6221.

With the exception of the \$750,000 designated for "Additional Cooperative Extension Work," and funds allotted by this Department under the appropriation entitled "Farmers' Cooperative Demonstration Work", the major part of the extension money is distributed on the basis of rural population, computed on the proportion that the rural population of each State bears to the total rural population of the States. The \$750,000 appropriation for "Additional Cooperative Extension Work" provides for payment to each State and the Territory of Hawaii in accordance with the apparent need as determined by the Secretary of Agriculture. Funds directly disbursed by the Department are also allotted at the discretion of the Secretary. The following table indicates the funds paid to the States and Territories that require offset by State money, those where such offset is not required, and the basis of allotment:

Table 2. Statement of direct payments to States, Hawaii, Alaska, and Puerto Rico, indicating those requiring offset by States and Territories, those not requiring such offset and basis of distribution, as estimated for 1935.

	Total App'n 1935	Amount paid without offset	Amount requiring offset and basis of allotment	
			Amount	Basis of distribution
(1) Permanent Annual Appropriation (Smith-Lever Act)	\$3,507,072	\$ 375,000(a)	\$3,132,072	Rural population
(2) Supplemental Smith-Lever Act.....	1,185,000		1,185,000	Rural population
(3) Capper-Ketcham Act.....	1,110,000	735,000(b)	375,000	Rural population
(4) Alaska Act.....	9,000	7,500(c)	1,500	Rural population when recommended by Department.
(5) Additional Cooperative Extension Work.....	750,000	750,000	- - -	Determined by Secretary of Agriculture
Total funds available.....	6,561,072	1,867,500	4,693,572	

(a) \$10,000 to each State, Hawaii, and Puerto Rico, less 25 percent.

(b) \$20,000 to each State and Hawaii, less 25 per cent.

(c) Based on special authorization, less 25 per cent.

The federal funds for cooperative agricultural extension work are supplemented by funds from within the States estimated at \$10,520,054, thus making available from Federal, State and local sources for extension work during 1934 a sum approximating \$19,896,230. (See Table 3). This aggregate sum does not take into account the 25% reduction in Federal funds for the period March 4-June 30, 1934.

Table 3. Total allotments to States and Territories from Federal
(including U.S.D.A.) and State sources for extension work.

	Total	Federal Funds	Total within the States
Alabama.....	\$ 587,433.26	\$ 304,830.13	\$ 282,603.13
Arizona.....	128,229.54	84,464.77	43,764.77
Arkansas.....	434,252.14	257,057.07	177,195.07
California.....	725,432.61	230,043.31	495,389.30
Colorado.....	187,344.70	124,062.17	63,282.53
Connecticut.....	248,573.15	100,606.15	148,072.00
Delaware.....	60,429.06	46,214.53	14,214.53
Florida.....	307,339.96	149,479.98	157,859.98
Georgia.....	647,879.31	342,063.59	305,815.72
Idaho.....	182,201.50	98,503.01	83,698.59
Illinois.....	837,778.92	300,389.46	537,389.46
Indiana.....	531,536.10	232,052.28	299,543.82
Iowa.....	778,827.15	239,575.51	539,021.64
Kansas.....	533,830.20	197,410.53	336,419.67
Kentucky.....	501,701.56	293,500.78	208,200.78
Louisiana.....	451,895.33	227,635.66	224,259.67
Maine.....	191,452.14	108,876.07	82,576.07
Maryland.....	324,234.76	136,672.53	187,562.23
Massachusetts.....	416,198.69	102,075.96	314,122.73
Michigan.....	528,168.04	238,149.09	290,019.75
Minnesota.....	387,058.98	217,574.98	169,484.00
Mississippi.....	520,959.56	280,689.60	240,269.96
Missouri.....	400,928.00	237,664.00	163,264.00
Montana.....	240,334.88	118,539.88	121,795.00
Nebraska.....	338,364.12	170,944.12	167,420.00
Nevada.....	110,000.00	58,139.95	51,860.05
New Hampshire.....	198,523.76	73,362.25	125,166.51
New Jersey.....	352,317.74	135,232.59	217,085.15
New Mexico.....	154,757.88	91,394.94	63,362.94
New York.....	1,325,028.52	300,652.86	1,024,375.96
North Carolina.....	555,400.00	320,800.00	234,600.00
North Dakota.....	201,885.76	135,542.88	66,342.88
Ohio.....	661,617.49	306,063.49	355,549.00
Oklahoma.....	474,381.14	260,840.57	213,540.57
Oregon.....	303,533.38	122,264.07	181,319.31
Pennsylvania.....	798,313.10	396,506.55	401,806.55
Rhode Island.....	62,375.88	40,564.65	21,811.23
South Carolina.....	328,426.80	199,221.96	129,204.84
South Dakota.....	187,081.00	127,840.90	59,240.90
Tennessee.....	490,588.18	291,464.09	199,224.09
Texas.....	1,085,918.29	527,172.77	558,745.52
Utah.....	142,946.67	86,883.67	56,063.00
Vermont.....	161,179.79	83,409.04	77,770.75
Virginia.....	549,738.29	278,765.29	270,973.00
Washington.....	219,196.68	141,348.34	77,848.34
West Virginia.....	367,344.11	196,654.11	170,690.00
Wisconsin.....	450,863.78	219,264.39	231,599.39
Wyoming.....	127,522.41	74,388.39	53,134.02
Alaska.....	15,000.00	12,000.00	3,000.00
Hawaii.....	78,276.00	55,400.00	22,876.00
Puerto Rico.....	3,240.00	1,620.00	1,620.00
Total.....	19,896,232.31	* 9,376,177.91	10,520,054.40

*Direct payments to States and Territories for 1934 are subject to reduction of 25% from March 4 to June 30, 1934, inclusive, by Executive Orders Nos. 6166 and 6221.

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[illegible]

As the major purpose of these payments of money to State is the employment of extension workers in counties and at the colleges, the following comparative statement is submitted showing agents employed:

Table 4. Comparison of number of extension field agents employed June 30, 1932, June 30, 1933, and October 31, 1933.

	June 30, 1932	June 30, 1933	Oct. 31, 1933
State supervisors.....	504	475	475
Subject matter specialists:			
Full-time specialists.....	942	863	833
Part-time specialists.....	236	216	245
Total specialists.....	1,178	1,079	1,078
Total with headquarters at colleges..	1,682	1,554	1,553
County Workers:			
Agricultural Agents.....	2,534	2,450	2,966 (a)
Home demonstration agents.....	1,221	1,221	1,161
Boys' and girls' club agents.....	220	201	192
Negro extension agents.....	302	314	293
Total county workers.....	4,277	4,186	4,612
Total	5,959	5,740	6,165

(a) Increase in number of agents in counties is due to the cooperative arrangement with the Agricultural Adjustment Administration, covering administration of the commodity programs under the Adjustment Act.

Number of counties in United States..... 3076
Approximate number of counties now having one or more agents... 2550

A discussion of the activities under the various appropriation items and tabulation of amounts involved under each, follows:

(a) Cooperative Agricultural Extension Work
(Supplemental Smith-Lever Appropriation)

Appropriation, 1932 \$1,580,000
 Appropriation, 1933 1,580,000
Appropriation, 1934 1,580,000 (a)

Estimated Obligations, 1934 1,580,000 (a)
Budget Estimate, 1935 1,185,000

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 395,000

PROJECT STATEMENT

Projects	1933	1934	1935	Decrease
Payments to States from Supplemental Smith- Lever Funds	\$1,580,000	\$1,580,000(a)	\$1,185,000	-\$395,000 (1)

(1) The decrease of \$395,000 represents a reduction of 25% for direct payments to the States and Territories pursuant to Executive Orders Nos. 6166 and 6221.

Work Done Under This Appropriation

These funds supplement the permanent annual appropriation provided under the Smith-Lever Act (May 8, 1914, Stat. 372-374, U.S.C., 114). Like the Smith-Lever Funds, they are paid directly to the State colleges of agriculture as Federal-aid for the promotion of extension work in agriculture and home economics. This appropriation is divided among the States and Hawaii in the proportion that the rural population of each bears to the total rural population of the States and Hawaii, and is available only when offset with funds from within the States. This item contains a provision that not more than \$300,000 may be expended for purposes other than salaries of extension agents in counties. As \$300,000 is approximately 25 percent of the total appropriation, this means that approximately 75 percent of the funds must be expended for salaries of county extension agents. The State allotments are paid directly to a designated officer in the State and are disbursed in accordance with budgets and programs of work submitted by the State directors of extension and approved by the Secretary of Agriculture. Expenditures by the States from this and other cooperative extension appropriations are subject to an annual inspection by representatives of the Department.

(a) Direct payments to States and Territories for 1934 are subject to reduction of 25% from March 4 to June 30, 1934, inclusive, by Executive Orders Nos. 6166 and 6221. The net reductions for 1934 would be approximately 8%.

(b) Cooperative Agricultural Extension Work
(Capper-Ketcham Act)

Appropriation, 1932 \$ 1,480,000
 Appropriation, 1933 1,480,000
Appropriation, 1934 1,480,000 (a)

Estimated Obligations, 1934 1,480,000 (a)
Budget Estimate, 1935 1,110,000

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 370,000

PROJECT STATEMENT

Project	1933	1934	1935	Decrease
Payments to States from Capper-Ketcham Funds	\$1,480,000	\$1,480,000(a)	\$1,110,000	- \$370,000 (1)

(1) The decrease of \$370,000 from Capper-Ketcham Funds for Extension Work represents a reduction of 25% for direct payments to the States and Territories pursuant to Executive Orders Nos. 6166 and 6221.

Work Done Under This Appropriation

This appropriation is specifically authorized by the provisions of the Capper-Ketcham Act of May 22, 1928 (45 Stat., 711,712). This Act authorizes an appropriation of \$980,000 to be divided at the rate of \$20,000 to each State and to Hawaii, without requirement for State offset, and an additional \$500,000 to be divided among the States and Hawaii on the basis of rural population. It provides that at least 80 percent of the funds appropriated under this authorization shall be expended for salaries of county extension agents and that the extension agents appointed under its provisions shall be men and women in fair and just proportions.

(a) Direct payments to States and Territories for 1934 are subject to reduction of 25% from March 4 to June 30, 1934, inclusive by Executive Orders Nos. 6166 and 6221. The next reductions for 1934 would be approximately 8 percent.



(c) Extension of Smith-Lever Act to Alaska

Appropriation, 1932 \$10,000
 Appropriation, 1933 12,000
Appropriation, 1934 12,000 (a)

Estimated Obligations, 1934 12,000 (a)
Budget Estimate, 1935 9,000

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 3,000

PROJECT STATEMENT

Projects	1933	1934	1935	Decrease
Payment to Alaska for Cooperative Agricultural Extension Work	\$12,000	\$12,000 ^(a)	\$9,000	- \$3,000 (1)

(1) The decrease of \$3,000 from Alaska Funds for Extension Work represents a reduction of 25% for direct payments to the States and Territories pursuant to Executive Orders Nos. 6166 and 6221.

Work Done Under This Appropriation

This appropriation is authorized by the Act approved Feb. 23, 1929, entitled "An Act to extend the benefits of the Hatch Act and the Smith-Lever Act to the Territory of Alaska" (U.S.C., Supp.VI, title 7, sec.386c). The extension work in agriculture and home economics is of a similar nature to that which is being conducted in the States, modifications being made to suit local conditions. Experiment stations have been maintained by the Federal Government in Alaska for many years, but extension work was not systematically begun among farmers until 1931.

(a) Direct payments to States and Territories for 1934 are subject to a reduction of 25% from March 4 to June 30, 1934, inclusive, by Executive Orders Nos. 6166 and 6221. The net reductions for the year would be approximately 8 percent.

(d) Additional Cooperative Agricultural Extension Work

Appropriation, 1932 \$1,000,000
 Appropriation, 1933 1,000,000
Appropriation, 1934 1,000,000(a)

Estimated Obligations, 1934 1,000,000(a)
Budget Estimate, 1935 750,000

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 250,000

PROJECT STATEMENT

Projects	1933	1934	1935	Decrease Working Funds
Payments to States for additional Coopera- tive Agricultural Extension Work . . .	\$1,000,000	(a) \$1,000,000	\$750,000	\$250,000(1)

(1) The decrease of \$250,000 represents a reduction of 25% for direct payments to the States and Territories pursuant to Executive Orders Nos. 6166 and 6221.

Work Under This Appropriation

This project provides for additional cooperative agricultural extension work, including employment of specialists in economics and marketing, to be allotted by the Secretary of Agriculture to the several States and the Territory of Hawaii in such amounts as he may deem necessary to accomplish such purposes.

These funds supplement the permanent annual appropriation provided under the Smith-Lever Act, (Act of May 8, 1914), as well as those funds provided under the Capper-Ketcham Act, (Act of May 22, 1928). Like the Smith-Lever and Capper-Ketcham Funds, they are paid direct to the State Colleges of agriculture as federal aid for extension work in agriculture and home economics. However, as already indicated, the payments of funds to the States, instead of being based upon the ratio that the rural population of each State bears to the total rural population of the States and Hawaii, are subject to determination by the Secretary of Agriculture as to the amount that he may deem necessary to accomplish the best results in each State.

(a) Direct payments to States and Territories for 1934 are subject to reduction of 25% from March 4 to June 30, 1934, inclusive, by Executive Orders No. 6166 and 6221. The net reductions for 1934 would be approximately 8 per cent.

(e) General Administrative Expenses

39

Appropriation, 1932.....\$15,260
 Appropriation, 1933..... 15,000
Appropriation, 1934..... 13,846

Estimated Obligations, 1934..... 11,785
Budget Estimate, 1935..... 12,426

Increase, Budget 1935, compared
 with Estimated Obligations, 1934... 641

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
General Administra- tive Expenses.....	\$ 13,351	\$ 11,785	\$ 12,426	\$ + 641	----
<u>Unobligated:</u>					
Salary reduction.....	1,391	769	----	----	----
Working funds reduction	258	1,292	----	----	----
Total Appropriation.	15,000	13,846	12,426	- 1,420	(1)

(1) This reduction of \$1,420 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... \$ - 769
 Curtailment in 1934 working funds..... - 1,292
 5% Salary Restoration..... + 641
- 1,420

Work Under This Appropriation

This appropriation covers the general expenses of the Office of the Director of Extension Work, except the Director's salary, which is paid by the Office of the Secretary. The principal items of expense are for the clerical staff of the office, including a personnel section which handles all the personnel work of the Extension Service, and for the Director's travel.

(f) Farmers' Cooperative Demonstrations

Appropriation, 1932..... \$ 1,574,430
 Appropriation, 1933..... 1,483,320
Appropriation, 1934..... 1,420,189

Estimated Obligations, 1934..... 1,065,142
Budget Estimate, 1935..... 684,648

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934..... 380,494

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or 5% Salary Restoration	Decrease Working Funds
<u>Obligated:</u>					
Cooperative Extension Work.....	\$1,185,029	\$950,476	\$ 564,558	\$ + 27,252	\$-413,170(2)
Economic Extension Work....	34,721	27,960	29,313	+ 1,353	---
Reclamation Demonstrations..	35,461	27,591	28,971	+ 1,380	---
Motion Pictures.....	78,379	59,115	61,806	+ 2,691	---
Total.....	1,333,590	1,065,142	684,648	+ 32,676	-413,170
<u>Unobligated:</u>					
Salary Reduction.....	86,267	125,940	----	----	----
Working Funds Reduction....	63,463	229,107	----	----	----
Total Appropriation.....	1,483,320	1,420,189	684,648	-735,541 (1)	

(1) This reduction of \$735,541 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... \$-125,940
 Curtailment in 1934 working funds..... -229,107
 Further reduction in working funds for 1935..... -413,170
 5% Salary Restoration..... + 32,676
-735,541

(2) The reduction of \$413,170 in working funds for 1935 represents a reduction in the total amount allotted and disbursed by the Department of Agriculture for salaries of extension agents in the States.

General

This appropriation is used for financing the Office of Cooperative Extension Work, the Office of Motion Pictures, Demonstrations on Reclamation Projects, and, by allotment, for salaries of extension agents in the States.

By far the larger part of the approximately 6,000 State and county extension workers are under Federal appointment, either without compensation or paid at rates running up to \$50.00 or more per month. The compensation of these workers from Federal sources is arranged by the State Directors of extension, out of allotments made to the States from this appropriation at the beginning of the fiscal year. These extension agents are made employees of the Federal Government, as well as of the States and counties, by appointment under this appropriation.

The Office of Cooperative Extension Work examines and recommends for approval budgets and plans of work submitted by State directors of extension, involving the expenditure of Federal and State offset funds; makes an annual examination of extension expenditures in each of the States; and gives general supervision to cooperative extension work. It employs subject-matter specialists who represent the subject-matter bureaus of the Department in their contracts with the State extension forces, receives and tabulates annual reports from all extension agents, and prepared press material and reports on extension work.

Economic Extension Work. Under this project special attention is given to the extension of information to the States along the lines of cooperative marketing and farm management. The results of investigations of, and information available from, the Bureau of Agricultural Economics and State experiment stations, particularly along the line of price trends, the agricultural outlook, and intentions of farmers to plant crops and breed livestock, foreign and domestic supplies, and demands for agricultural products, and other data of this nature, are assembled and made available, insofar as possible, to the State extension services.

Demonstration on Reclamation Projects are conducted in cooperation with State extension services in the employment of extension agents in counties which include reclamation projects. The work of these agents is practically identical with that of other extension workers, their activities of course, being directed especially toward successful farm operations on irrigated land. Because of the special relationship of the Government in reclamation projects, more than the usual share of the expense of maintaining these agents is paid from Federal sources, this being the allotment from which such payments are made.

The Office of Motion Pictures, in cooperation with the subject-matter bureaus, prepares motion pictures illustrative of the various phases of the Department's work and makes these pictures available to the public through extension workers and other Department employees, vocational teachers, and other agencies. The films deal with important lines of work in which the Department and cooperating State institutions are engaged. Their aim is to acquaint the public with agricultural methods and significance of important activities, and by making common property of the results of scientific investigations, to spread knowledge of improved methods in agriculture, forestry, road building, rural engineering and kindred pursuits.

(g) Agricultural Exhibits at Fairs

Appropriation, 1932..... \$129,870
 Appropriation, 1933..... 120,000
Appropriation, 1934..... 85,000

Estimated Obligations, 1934..... 63,750
Budget Estimate, 1935..... 66,510

Increase, Budget 1935, compared
 with Estimated Obligations, 1934. 2,760

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Preparations.....	\$ 53,317	\$ 29,160	\$ 29,663	\$ + 503	- - -
Exhibitions.....	49,126	34,590	36,847	+ 2,257	- - -
Total.....	102,443	63,750	66,510	+ 2,760	- - -
<u>Unobligated:</u>					
Salary reduction.....	8,028	2,079	- - -	- - -	- - -
Working Funds reduction.....	9,529	19,171	- - -	- - -	- - -
Total Appropriation.....	120,000	85,000	66,510	- 18,490	(1)

(1) This reduction of \$18,490 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... \$ - 2,079
 Curtailment in 1934 working funds..... - 19,171
 5% Salary Restoration..... + 2,760
- 18,490

Work Under This Appropriation

This appropriation item affords the means by which the Department provides the public with agricultural information in exhibit form which has come to be recognized as one of the important teaching methods. It also enables the Department, through the maintenance of a trained staff, to effectively coordinate the general exhibits work of its bureaus. The activity is carried on through a cooperative arrangement with state and interstate fairs within

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the United States by which the Department furnishes the exhibits and personnel for their management and demonstration, and the fairs share in the transportation costs of exhibits shipments, furnish without cost to the Department exhibition space, drayage and labor for unloading and reloading cars at exhibition points, common labor for unpacking, installing, dismantling, and repacking the exhibits, and janitor, watchmen, electrical, and such other special services as are necessary to accomplish creditable displays.

(h) A Century of Progress

)
(The Chicago World's Fair Centennial Celebration)
(Transfer to Agriculture)

A transfer of funds of \$61,245 for the fiscal year 1933 and \$40,505 for the fiscal year 1934 was made from the State Department to the Office of Exhibits, Extension Service, under the appropriation 3-03/4549 Chicago World's Fair Centennial Celebration (1933-1934) (Transfer to Agriculture, Act of Feb. 8, 1932).

This appropriation was for the purpose of employing personnel, purchasing materials and the making of contracts necessary in designing, preparing, assembling, transporting, installing, demonstrating, and arranging for the safe-keeping of the Department's exhibits at A Century of Progress Exposition in Chicago, and their return to the custody of the Department and restoration to such condition as will permit their use at subsequent expositions and fairs.

(i) COOPERATIVE FARM FORESTRY

Appropriation, 1932..... 74,000
 Appropriation, 1933..... 69,850
Appropriation, 1934..... 64,787

Estimated Obligations, 1934..... 48,590
Budget Estimate, 1935..... 51,354

Increase, Budget 1935, compared
 with Estimated Obligations, 1934.. 2,764

PROJECT STATEMENT

Projects	: 1933	: 1934	: 1935	: Increase or Decrease	
				5% Salary	Working
				Restoration	Fund
Obligated:	:\$:\$:\$:\$:
Cooperative Farm Forestry:	60,249	48,590	51,354	+ 2,764	---
Unobligated:	:	:	:	:	:
Salary Reduction.....	6,431	3,229	---	---	---
Working Funds Reduction..	3,170	12,968	---	---	---
Total Appropriations....	69,850	64,787	51,354	-13,433 (1)	

(1) This reduction of \$13,433 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... -\$3,229
 Curtailment in 1934 working funds..... -12,968

5% Salary Restoration..... + 2,764

-13,433

WORK UNDER THIS APPROPRIATION

This activity is conducted under Section 5 of the Clarke-McNary Act (U.S.C. pp 427, 428, Secs. 564-570), which authorizes a maximum appropriation of \$100,000. The funds are used for the employment of an extension forester, representing the Forest Service and the Extension Service, and for cooperation with the States in the employment of extension foresters. The usual arrangement is for the Federal Government to contribute \$1620 toward the salary of the extension forester, the State providing for the

remainder of his salary, State travel expense, clerical help, and other necessary expenses. Usually the State contribution is considerably more than that of the Federal Government. At the present this cooperative arrangement is in effect with 32 States, Hawaii, and Puerto Rico. A very large part of the farm acreage of the United States is in wood land and much of the income of farmers in certain sections, particularly the Northeastern and Southern States, is from Forest products. County agents generally are not trained in forest management and need the assistance of farm forestry specialists in strengthening their work in this field. The extension forester arranges demonstrations in woodlot management, selection of trees for cutting, estimating of merchantable timber, and in other fields. In many States, the extension forester is also active in assisting farmers in forest planting plans, and in interesting members of boys' and girls' clubs in tree planting.

1. The first part of the paper is devoted to a general discussion of the problem of the origin of life. It is shown that the problem is one of the most important and most difficult in the history of science. The author discusses the various theories of the origin of life, from the spontaneous generation theory to the modern theory of the origin of life from non-living matter. The author concludes that the modern theory of the origin of life is the most plausible and most convincing.

2. The second part of the paper is devoted to a detailed discussion of the modern theory of the origin of life. The author discusses the various stages of the origin of life, from the formation of the first organic molecules to the formation of the first living cells. The author concludes that the modern theory of the origin of life is the most plausible and most convincing.

3. The third part of the paper is devoted to a discussion of the evidence for the modern theory of the origin of life. The author discusses the various lines of evidence, from the study of the fossil record to the study of the chemical evolution of the early Earth. The author concludes that the evidence strongly supports the modern theory of the origin of life.

4. The fourth part of the paper is devoted to a discussion of the implications of the modern theory of the origin of life. The author discusses the various implications, from the study of the evolution of life to the study of the origin of the universe. The author concludes that the modern theory of the origin of life has far-reaching implications for our understanding of the history of life and the universe.

(j) COOPERATIVE AGRICULTURAL EXTENSION WORK
(Permanent Annual Smith-Lever Appropriation)

Appropriation, 1932 \$4,606,096
 Appropriation, 1933 \$4,656,096
Appropriation, 1934 4,666,096(a)

Estimated Obligations, 1934 4,606,096(a)
Budget Estimate, 1935 3,507,072

Decrease, Budget 1935, compared with.

Estimated Obligations, 1934 1,099,024

(a) Direct payments to States and Territories for 1934 are subject to reduction of 25% as provided by Executive Order No. 6166 of June 10, 1933, but since the effective date of this reduction is dererred by Executive Order No. 6221 of July 26, 1933, until 60 days after the convening of the second session of the 73d Congress, payments during the fiscal year 1934 will be on the basis of 100% for the period July 1 to March 4, and at the rate of 75% after that date.

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Decrease
<u>Obligated:</u>				
Payments to States and Territories for Cooperative Agricultural Extension Work.....	\$4,606,096	\$4,606,096	\$3,507,072	-\$1,099,024 (2)
<u>Unobligated:</u>				
Payment to Puerto Rico	(2) 50,000	(2) 60,000	- - -	- - -
Total Appropriation.....	4,656,096	4,666,096 (a)	3,507,072	- 1,159,024 (1)

(1) The reduction of \$1,159,024 below the appropriation for 1934 consists of:

25% curtailment below 1934 appropriation, pursuant to Executive Orders Nos. 6166 and 6221.	\$-1,166,524
Automatic increase for Puerto Rico, pursuant to the Act of March 4, 1931, extending the benefits of the Smith-Lever Act to Puerto Rico	+ 10,000
25% curtailment in automatic increase for Puerto Rico, pursuant to Executive Orders Nos. 6166 and 6221	- 2,500
	<u>-1,159,024</u>

(2) The difference between the reduction of \$1,099,024, when the Budget Estimate 1935 is compared with estimated obligations for 1934, and the reduction of \$1,159,024 when the Budget Estimate for 1935 is compared with the appropriation for 1934, is due to the fact that the certification of payments to Puerto Rico, for which appropriations were made for 1933 and 1934 has been withheld for those years, the Legislature and Government of Puerto Rico having failed prior to July 1 of the fiscal years indicated to comply with the qualifying action required by Section 1 of the Puerto Rico Station Act approved March 4, 1931. Puerto Rico having now qualified under the Act certification for payment is contemplated for payments beginning with 1935. Under the provisions of Section 6 of the Smith-Lever Act the action of the Secretary in withholding certification is subject to appeal by Puerto Rico to Congress at the first session thereof subsequent to such withholding.

CHANGE IN LANGUAGE

The following language has been inserted in the paragraph for the permanent annual appropriation to cover the automatic increase for Puerto Rico, as well as the reduction because of the Executive Order of June 10, 1933: "\$4,676,096, but pursuant to Executive Order No. 6166 of June 10, 1933, Section 18 of which requires that payments for agricultural extension work be reduced 25 percent, this appropriation is reduced to \$3,507,072."

WORK UNDER THIS APPROPRIATION

This is the permanent annual appropriation for cooperative extension work, provided in the Smith-Lever Act of May 8, 1914, as amended by the extension of this Act to the Territory of Hawaii by the Act of May 16, 1928, and to Puerto Rico by the Act of March 4, 1931. Under the provisions of these Acts, \$10,000 is appropriated annually to each State, Hawaii, and Puerto Rico without requirement of State or Territorial offset. In addition the States, Hawaii and Puerto Rico share in the remainder of the annual appropriation in the ratio which the rural population of each bears to the total rural population of the United States, Hawaii and Puerto Rico. This is the basic act under which cooperative extension work is conducted by the Department and the State colleges of agriculture.

Emergency Funds Applicable
Under This Heading

(k) Allotment from Agricultural Adjustment Administration

The Extension Service is cooperating with the Agricultural Adjustment Administration in carrying out the campaigns for production control, especially the educational phases of these campaigns. Extension workers explain to farmers the purposes of the production control campaigns, the extent to which they affect producers, the agreements which it is proposed that farmers shall enter into, and similar points that may be helpful to producers in arriving at a conclusion as to whether or not they desire to cooperate in the program. Extension workers organize the campaigns in the various States, set up County and community campaign committees, train these committeemen so that they are able to present the plan to other farmers, assist farmers in filling out and executing contracts and in all other ways make certain that every farmer has an opportunity to have a thorough understanding of the production control plans for the commodity in which he is interested. Extension workers also assist in the formulation and operation of county control associations, in the delivery of checks covering rental and benefit payments, and similar matters, acting as a general field contact force for the Adjustment program.

In order that the Agricultural Adjustment Administration might have a trained local representative in every important agricultural county, it was necessary to supplement the existing force of county agricultural agents through the employment of approximately 700 emergency agents. As available Federal, State, and County funds were already fully utilized in financing the staff previously employed, the cost of these additional agents necessarily fell almost entirely on the Agricultural Adjustment Administration.

State and County Extension workers in all States in which important production control campaigns have been conducted have given practically their entire time to the adjustment work, including specialists in many lines not directly covered by adjustment programs, these specialists having been temporarily transformed into supervisors or otherwise engaged in production control activities.

The largest item of expense in the production control campaigns is the employment of County and community committeemen, who present the control plans at local meetings or to individual farmers, and who make the inspections of farms of contract signers to see that provisions of the contract are carried out. While payment to these committeemen is nominal, being little more than the cost to them of operating their automobiles in travelling from farm to farm, the large number necessarily employed brings the total cost to a high figure. The payments to committeemen on the wheat, corn-hog, and certain of the tobacco production control campaigns are made by deductions from benefit payments to the farmers in the county in which they serve, these payments being made by the County Production Control Association, and not by the Extension Service. The funds here under discussion for payment to committeemen, \$4,584,285, represent the cost of the services of these committeemen on the 1933 and the 1934-1935 cotton campaigns, and on certain of the tobacco control

campaigns. At the request of the Agricultural Adjustment Administration, payment of these committeemen is handled by the Extension Service so that nearly half of the total amount here under discussion will be utilized for this purpose.

The remainder, slightly more than \$5,100,000, provides for the employment of such additional Extension workers as may be necessary to present the production control plans in all important agricultural counties, for the employment of clerical help in county agent offices, to assist farmers in executing their contracts, for extra travel by State and County workers incident to the conduct of these campaigns, and for all other expenses which are properly a part of the educational work.

During the year the Agricultural Adjustment Administration has had the full cooperation of the Extension Service in all States in which production control campaigns have been conducted.

During the period July to October, allotments from the Agricultural Adjustment Administration were made by commodity. These funds were utilized in the employment of emergency agricultural assistants, the payment of travel for both regular and emergency agents, necessary supplies, rent of equipment, telegraph and telephone charges, etc.

Under this procedure, reimbursement to the States for traveling expenses, supplies, etc., assumed such proportion as to delay settlement, and it was then determined that a lump sum allotment of Agricultural Adjustment Administration funds to the Extension Service would be made for the period November 1, 1933 to June 30, 1934, this fund to be utilized insofar as practicable for payment of salaries, a limited amount of travel, and some telegraph charges. This plan is being worked out in harmony with the cooperative arrangements heretofore in effect between the State colleges and the Department on regular extension work, and fits into the general extension plan of operation in a very satisfactory manner.

Allotments from the Agricultural Adjustment Administration aggregating \$9,693,089 have been made as follows:

Allotment of funds from July 1, 1933 to October 31, 1933...	\$6,457,520
Allotment of funds subsequent to October 31, 1933.....	<u>3,235,569</u>
Total.....	<u><u>9,693,089</u></u>

Table No. 5 shows the allotment of Agricultural Adjustment Administration funds under the first plan (by commodity) and also the allotments under the new plan (lump sum, with estimated breakdown by commodity) together with the estimated total for each State for the full year.

ALLOTMENTS OF AAA FUNDS BY STATES
TRANSFERRED TO EXTENSION SERVICE

50

Table 5. (For Period July 1, 1933 to June 30, 1934)

States	Individual Commodity Projects :			Combined Budget :				Total
	July 1 to October 31, 1933 :			Nov. 1, 1933 to June 30, 1934 :				
	Cotton	Tobacco	Wheat	Cotton	Wheat	Corn & Hogs	Tobacco	
Conn.	-	6,038	-	-	-	-	2,000	8,038
Del.	-	-	2,100	-	-	2,000	-	4,100
Maine	-	-	-	-	-	-	-	-
Md.	-	-	22,000	-	8,400	8,400	4,200	43,000
Mass.	-	2,092	-	-	-	-	1,000	3,092
New Hamp.	-	-	-	-	-	-	-	-
New Jersey	-	-	5,900	-	-	-	-	5,900
New York	-	770	14,450	-	-	-	1,000	16,220
Penn.	-	-	-	-	-	-	8,000	8,000
Rhode Is.	-	-	-	-	-	-	-	-
Vermont	-	-	-	-	-	-	-	-
W. Va.	-	-	7,900	-	5,500	14,300	2,200	29,900
Illinois	-	-	46,000	-	-	100,000	-	146,000
Indiana	-	-	40,000	-	-	72,000	1,000	113,000
Iowa	-	-	10,000	-	-	170,000	-	180,000
Kansas	-	-	93,000	-	25,000	75,000	-	193,000
Kentucky	-	-	9,000	-	-	20,000	50,000	109,000
Michigan	-	-	36,000	-	-	18,000	-	54,000
Minnesota	-	1,164	40,000	-	9,750	55,250	1,000	107,164
Missouri	30,588	-	40,000	32,149	9,000	67,500	-	179,237
Nebraska	-	-	80,000	-	30,000	120,000	-	230,000
North Dakota	-	-	55,000	-	21,000	39,000	-	115,000
Ohio	-	16,305	40,000	-	7,300	58,400	12,300	134,305
So. Dak.	-	-	59,000	-	23,750	71,250	-	154,000
Wisconsin	-	12,592	9,000	-	2,250	29,250	16,500	69,592
Arizona	6,453	-	2,300	4,002	765	1,785	-	15,905
Calif.	7,098	-	16,000	12,516	9,730	17,514	-	62,858
Colo.	-	-	36,000	-	9,000	27,000	-	72,000
Idaho	-	-	35,000	-	10,000	15,000	-	60,000
Montana	-	-	55,000	-	7,500	7,500	-	70,000
Nevada	-	-	2,000	-	-	-	-	2,000
New Mex.	6,810	-	10,000	7,481	2,480	5,580	-	32,351
Oregon	-	-	15,000	-	3,960	5,940	-	24,900
Utah	-	-	12,000	-	5,200	7,800	-	25,000
Wash.	-	-	21,000	-	9,200	13,800	-	44,000
Wyo.	-	-	10,000	-	8,500	8,500	-	27,000

Table 5 - Cont'd.

States	Individual Commodity Projects: July 1 to Oct. 31, 1933			Combined Budget Nov. 1, 1933 to June 30, 1934				TOTAL
	Cotton	Tobacco	Wheat	Cotton	Wheat	Corn & Hogs	Tobacco	
Ala.	457,149	-	-	380,853	-	9,900	-	847,902
Ark.	327,284	-	-	296,157	-	10,600	-	634,041
Fla.	21,110	1,755	-	21,526	-	1,480	1,000	46,871
Ga.	377,341	16,405	-	320,934	-	12,000	28,000	754,680
La.	180,582	-	-	163,302	-	4,000	-	347,884
Miss.	357,176	-	-	344,576	-	12,500	-	714,252
No.Car.	175,256	31,495	11,800	143,483	-	16,200	49,300	427,534
Okla.	202,812	-	44,000	238,004	11,000	33,000	-	528,816
S.Car.	187,844	6,175	-	188,535	-	-	14,500	397,054
Tenn.	55,928	-	11,950	121,494	4,500	22,500	36,000	252,372
Texas	828,606	-	55,000	617,427	22,500	22,500	-	1,546,033
Va.	12,397	19,405	29,200	15,482	5,500	22,000	29,250	133,234
Total	3,234,434	114,196	978,200	2,907,921	251,785	1197,449	287,250	8,971,235
P.Rico	-	-	-	-	-	-	3,000	3,000
D. C.	-	-	35,000	28,800	9,000	41,100	8,100	125,000
Unallotted	-	4,924	133,050	256,882	25,588	125,381	48,029	593,854
*Grand Total	3,234,434	119,120	1,146,250	3,193,603	286,373	1,366,930	346,379	9,693,089

* - Personal Services are subject to 15% legislative reduction in compensation.

Note -

Of the allotment July to October 1933, for Cotton work, approximately \$2,091,000 was for employment of Committeemen.

Of the allotment November 1933 to June 1934, it is estimated that approximately \$2,293,285 will be expended for employment of Committeemen on Cotton work and \$100,000 for the same purpose on Tobacco work.

WEATHER BUREAU

(a) General Administrative Expenses

Appropriation, 1932.....	\$137,680
Appropriation, 1933.....	136,180
Appropriation, 1934.....	125,975

Estimated Obligations, 1934	101,810
Budget Estimate, 1935	<u>112,857</u>

Increase, Budget 1935, compared with	
Estimated Obligations, 1934.....	<u>11,047</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
General Administra- tion.....	\$112,699	\$101,810	\$112,857	+ \$5,937	+\$5,110(2)
<u>Unobligated:</u>					
Salary reduction....	11,905	7,515	- - -	- - -	- - -
Working funds reduction	11,576	16,650	- - -	- - -	- - -
Total Appropriation..	136,180	125,975	112,857	- 13,118(1)	

(1) This reduction of \$13,118 below the appropriation for 1934 consists of:

Impoundment of 6 2/3% of 15% pay cut.....	-\$ 7,515
Curtailments in 1934 working funds.....	- 16,650
Increase by transfer from appropriations of	
Office of Secretary for Salaries of watchmen.....	+ 5,110
5% salary restoration.....	<u>+ 5,937</u>
	<u>- 13,118</u>

(2) The increase of \$5,110 in working funds of 1935 results from the transfer of four permanent and three emergency relief guards from the rolls of the Office of the Secretary to those of the Weather Bureau (\$6,255 gross, less \$243 for lapses; or \$6,012, less 15%; net \$5,110). A corresponding decrease appears in the Budget estimates for the Office of the Secretary.

Work Done Under This Appropriation

General administration of the Bureau is centralized in Washington, D. C., and this appropriation is for the maintenance of fiscal and administrative units, including offices concerned in matters of personnel, accounting, contracts, files and property.

(b) General Weather Service and Research

Appropriation, 1932.....\$2,585,200
 Appropriation, 1933..... 2,503,218
Appropriation, 1934..... 2,279,750

Estimated Obligations, 1934..... 1,740,060
Budget Estimate, 1935..... 1,806,519

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 66,459

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Meteorological Observations and reports.....	\$691,260	\$ 582,810	\$ 606,145	+\$25,880	-\$ 2,545
General Forecasts and Warnings.....	467,620	394,025	409,575	+ 17,490	- 1,940
Climatology.....	533,540	449,670	467,205	+ 19,960	- 2,425
Agricultural Met- eorology.....	67,980	57,375	59,434	+ 2,540	- 481
River and Flood Service.....	183,340	154,710	160,240	+ 6,865	- 1,335
Marine Meteorology	72,100	60,870	63,045	+ 2,705	- 530
Forest Fire-Wea- ther Warning Service:					
Service.....	31,705	29,802	30,015	+ 856	- 643
Research.....	4,215	3,998	3,815	+ 140	- 323
Solar Radiation....	8,247	6,800	7,045	+ 305	- 60
Total	2,060,007	1,740,060	1,806,519	+ 76,741	- 10,282(2)
<u>Unobligated:</u>					
Salary reduction..	160,289	102,315	- - -	- - -	- - -
Working funds reduction.....	282,922	437,375	- - -	- - -	- - -
Total Appropriation	2,503,218	2,279,750	1,806,519	-473,231(1)	

(1) This reduction of \$475,231 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$102,315
Curtailments in 1934 working funds	- 437,375
Further reduction in working funds for 1935....	- 10,282
5% salary restoration.....	+ 76,741

- 473,231

(2) The further reduction of \$10,282 in working funds for 1935 contemplates a reduction in the expenditure for repairs and improvements to the forty-two Weather Bureau-owned buildings located throughout the United States and Puerto Rico. Funds allotted by the Public Works Administration have enabled the Bureau to place its buildings in good condition during the current year and this will be of considerable aid in eliminating all but emergency needs in 1935. Since the buildings concerned are used in connection with all activities under this sub-appropriation, the reduction is prorated to all projects.

Work Done Under this Appropriation

The major activities of the Bureau, with one exception, are conducted under this appropriation and consist, basically, of the collection and dissemination of meteorological data and of the issuance and distribution of meteorological forecasts, warnings and advices. They are administered by project leaders stationed at Washington, D. C., through the agency of a large field organization embracing nearly two hundred permanent field headquarters located in every State of the Union, and elsewhere, and several thousand minor and cooperative stations with similar widespread geographical distribution.

There is not space here to describe the detailed work of the Weather Bureau, but an interesting outline of its scope, as it affects the individual, may be obtained from the following paragraph of a report made to the Science Advisory Board by its special committee on the Weather Bureau:

"The United States Weather Bureau through its forecasting service probably touches directly the immediate needs of more of the people of the United States than do all other Federal Services combined, with the single exception of the postal service. The convenience, health and budget of every family in the country are in greater or less degree dependent upon that family's ability to avoid weather hazard, exposure and loss. There is little general realization either of the extent of the personal interest of the whole population in this service or of the magnitude of the organization and the labor involved in serving this universal individual need. The significance in the life of a city, for example, of a single temperature forecast may be seen from the following: With notice of an approaching cold wave greenhouses are closed and boilers fired. Preparations are made at once by heating and lighting plants, whether gas, electric, steam or hot water, to meet the

increased demands that will follow. Fire hydrants, exposed mains, and general plumbing are protected. Small householders as well as large stockyards drain their mains. Gasoline engines are drained and automobile water-cooling systems are protected by the use of anti-freeze solutions. Work in concrete is stopped. Street-railway companies arrange for more heat in their cars. Natural-gas companies turn a larger amount of gas into their mains to provide for increased consumption. Merchants direct their advertising and attention largely to cold weather articles. Oyster dealers increase their reserve stocks. Coal dealers supply partial orders to all customers needing fuel, instead of furnishing full orders to a few, and thus serve all of their patrons. Ice factories reduce their output. The dredging of sand and gravel ceases, and iron ore piled for shipment is placed in the holds of vessels, to prevent the wet masses from freezing solid. Charity organizations prepare to meet increased demands for food and fuel, and thus minimize suffering among the poor."

Emergency Funds Applicable
Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$132,990 have been made, as follows:

(1) \$32,990 for repairs and improvements to Weather Bureau Buildings and storm warning towers, allocated to projects and States as follows:

<u>Projects</u>	<u>Amounts</u>
Meteorological Observations and Reports...	\$12,970
General Forecasts and Warnings.....	8,740
Climatology.....	10,000
Agricultural Meteorology.....	1,280
	<u>\$32,990</u>

<u>States</u>	<u>Amounts</u>	<u>States</u>	<u>Amounts</u>
Alabama.....	\$ 486	New Jersey.....	\$3,350
Arizona.....	100	New York.....	909
Arkansas.....	370	North Carolina.....	540
Connecticut.....	100	North Dakota.....	413
District of Columbia..	1,150	Ohio.....	800
Florida.....	1,393	Oklahoma.....	1,407
Illinois.....	185	Oregon.....	690
Iowa.....	562	Puerto Rico.....	690
Kansas.....	128	Rhode Island.....	704
Maine.....	100	Texas.....	580
Massachusetts.....	565	Utah.....	411
Michigan.....	86	Vermont.....	321
Minnesota.....	1,099	Virginia.....	12,663
Missouri.....	350	Washington.....	30
Montana.....	425	Wisconsin.....	648
Nebraska.....	780	Wyoming.....	955
		Total.....	<u>\$32,990</u>

Funds covering the above allotment were authorized and made available as follows:

<u>Date Authorized</u>	<u>Amount</u>
August 1, 1933.....	\$20,000
November 18, 1933.....	<u>12,990</u>
Total.....	\$32,990

It is estimated that the entire amount will be obligated during the fiscal year 1934.

(2) \$150,000 for replacing river gages, allocated to projects and states as follows:

<u>Projects</u>	<u>Amount</u>
River and Flood Service.....	<u><u>\$150,000</u></u>

<u>States</u>	<u>Amounts</u>	<u>States</u>	<u>Amounts</u>
Alabama.....	\$7,000	Missouri.....	\$6,000
Arkansas.....	7,000	Nebraska.....	2,000
California.....	2,000	New Jersey.....	1,000
District of Columbia..	1,000	North Carolina.....	4,000
Florida.....	3,000	North Dakota.....	2,000
Georgia.....	6,000	Ohio.....	4,000
Idaho.....	4,000	Oklahoma.....	4,000
Illinois.....	8,000	Oregon.....	6,000
Indiana.....	4,000	Pennsylvania.....	6,000
Iowa.....	6,000	South Carolina.....	7,000
Kansas.....	4,000	South Dakota.....	3,000
Kentucky.....	3,000	Tennessee.....	5,000
Louisiana.....	6,000	Texas.....	10,000
Massachusetts.....	2,000	Virginia.....	5,000
Michigan.....	4,000	Washington.....	3,000
Minnesota.....	3,000	West Virginia.....	4,000
Mississippi.....	6,000	Wisconsin.....	<u>2,000</u>
		Total.....	\$150,000

Funds covering this allotment were authorized and made available on September 9, 1933. It is estimated that \$60,000 will be obligated during the fiscal year 1934 and the remainder, \$90,000, during the fiscal year 1935.

An allotment under the Civil Works Administration aggregating \$171,725 has been made and allocated to projects and States as follows:

<u>Projects</u>	<u>Amounts</u>
General Forecasts and Warnings.....	\$4,560.00
Climatology.....	68,027.50
Marine Meteorology.....	81,617.50
River and Flood Service.....	437.50
Fire-Weather Warning Service.....	17,082.50
	<u>\$171,725.00</u>

<u>States</u>	<u>Amount</u>	<u>States</u>	<u>Amounts</u>
Alabama.....	\$1,575.00	Nebraska.....	\$2,312.50
Arizona.....	1,290.00	Nevada.....	1,290.00
Arkansas.....	1,575.00	New Jersey.....	1,462.50
California.....	5,670.00	New Mexico.....	1,412.50
Colorado.....	1,575.00	New York.....	39,325.00
District of Columbia..	6,847.50	North Carolina.....	1,575.00
Florida.....	1,892.50	North Dakota.....	1,290.00
Georgia.....	1,302.50	Ohio.....	1,512.50
Idaho.....	2,410.00	Oklahoma.....	1,290.00
Illinois.....	2,750.00	Oregon.....	6,025.00
Indiana.....	1,387.50	Pennsylvania.....	26,855.00
Iowa.....	3,115.00	South Carolina.....	1,575.00
Kansas.....	1,575.00	South Dakota.....	1,575.00
Kentucky.....	1,575.00	Tennessee.....	1,290.00
Louisiana.....	6,675.00	Texas.....	2,262.50
Maryland.....	12,950.00	Utah.....	1,712.50
Massachusetts.....	3,100.00	Virginia.....	1,462.50
Michigan.....	1,662.50	Washington.....	7,527.50
Minnesota.....	1,442.50	West Virginia.....	1,290.00
Mississippi.....	1,575.00	Wisconsin.....	1,290.00
Missouri.....	2,092.50	Wyoming.....	1,437.50
Montana.....	1,915.00		
		Total.....	\$171,725.00

The money was made available November 27, 1933, and will be obligated during the fiscal year 1934.

(c) Horticultural Protection

Appropriation, 1932.....\$65,500
 Appropriation, 1933..... 59,200
Appropriation, 1934..... 44,905

Estimated Obligations, 1934..... 30,544
Budget Estimate, 1935..... 31,857

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 1,313

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary; Restoration	Working Funds
<u>Obligated:</u>					
Fruit-Frost Service..	\$31,427	\$30,044	\$31,357	+\$1,313	- - -
Harvest-Weather Service.....	3,638	- - -	- - -	- - -	- - -
Fruit-Spray Service	500	500	500	- - -	- - -
Total.....	35,565	30,544	31,857	+ 1,313	- - -
<u>Unobligated:</u>					
Salary reduction.....	2,751	1,750	- - -	- - -	- - -
Working funds reduction	20,884	12,611	- - -	- - -	- - -
Total Appropriation...	59,200	44,905	31,857	-13,048(1)	

(1) This reduction of \$13,048 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... -\$ 1,750
 Curtailments in 1934 working funds..... - 12,611
 5% salary restoration..... + 1,313
- 13,048

Work Done Under This Appropriation

By means of expressly trained personnel, intensive specialized work is conducted in the field under this appropriation for the protection and benefit of horticultural crops. The work at present is conducted principally in the

States of Washington, Oregon, California, Alabama, Florida, New York and Texas. It embraces the Fruit-Frost Service for the protection of orchards and the Fruit-Spray Service for aid in spray operations in which weather conditions are an important factor.

(d) Aerology

Appropriation, 1932..... \$1,709,340
 Appropriation, 1933..... 1,465,440
Appropriation, 1934..... 1,280,605

Estimated Obligations, 1934..... 1,033,470
Budget Estimate, 1935..... 1,081,059

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 47,589

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Working Restoration Funds	
<u>Obligated:</u>					
Aerological Observations & Reports.....	\$ 65,815	\$ 51,675	\$ 54,050	+\$ 2,375	- - -
Aviation Forecasts & Warnings.....	17,116	13,435	14,059	+ 624	- - -
Commercial Airways Meteorological Service.....	1,200,477	942,525	985,925	+ 43,400	- - -
Aerological Survey of United States.....	32,910	25,835	27,025	+ 1,190	- - -
Total.....	1,316,318	1,033,470	1,081,059	+47,589	- - -
<u>Unobligated:</u>					
Salary reduction.....	102,372	63,467	- - -	- - -	- - -
Working funds reduction	46,750	183,668	- - -	- - -	- - -
Total Appropriation.....	1,465,440	1,280,605	1,081,059	-199,546(1)	

(1) This reduction of \$199,546 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....-\$ 63,467
 Curtailments in 1934 working funds.....- 183,668
 5% salary restoration.....+ 47,589

- 199,546

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the implementation of the proposed changes. It details the steps involved in the transition process, from the initial planning phase to the final execution. This section also addresses the potential challenges that may arise during the implementation and provides strategies to overcome them.

3. The third part of the document discusses the impact of the proposed changes on the organization's overall performance. It highlights the expected benefits, such as increased efficiency and cost savings, and provides a detailed analysis of the potential risks. This section also includes a comparison of the current state of the organization with the proposed changes, illustrating the expected improvements.

4. The fourth part of the document provides a summary of the key findings and conclusions. It reiterates the importance of the proposed changes and the need for continued monitoring and evaluation. This section also includes a list of recommendations for future actions and a timeline for the implementation of the proposed changes.

5. The fifth part of the document is a conclusion that summarizes the main points of the document. It emphasizes the importance of the proposed changes and the need for continued monitoring and evaluation. This section also includes a list of recommendations for future actions and a timeline for the implementation of the proposed changes.

Work Done Under This Appropriation

The principal activity conducted under this appropriation is that of supplying meteorological service for Commercial Airways, designated as such by the Department of Commerce under provisions of the Air Commerce Act of 1926. In addition, other projects of work include investigational studies of the upper air in the interest of general weather forecasting and air navigation, the issuance of aviation forecasts and warnings, and the continuation of the aerological survey of the United States.

Emergency Funds Applicable
Under This Reading

An allotment of \$850 under the National Industrial Recovery Act has been made for improvement of the Weather Bureau building at Sandberg, Calif. The station at Sandberg is conducted for the benefit of the project "Commercial Airways Meteorological Service".

The money was made available November 16, 1933, and will be obligated during the fiscal year 1934.

An allotment under the Civil Works Administration aggregating \$47,505 has been made and allocated to projects and States as follows:

<u>Project</u>	<u>Amount</u>
Aerological Survey of the United States.....	<u>\$47,505.00</u>

<u>States</u>	<u>Amounts</u>	<u>States</u>	<u>Amounts</u>
California.....	\$4,040.00	New Mexico.....	\$1,087.50
District of Columbia..	4,177.50	New York.....	1,200.00
Florida.....	1,472.50	Ohio.....	4,702.50
Georgia.....	1,887.50	Oregon.....	1,910.00
Illinois.....	1,800.00	Texas.....	8,517.50
Indiana.....	1,202.50	Utah.....	2,862.50
Massachusetts.....	1,180.00	Virginia.....	562.50
Michigan.....	902.50	Washington.....	502.50
Minnesota.....	832.50	Wyoming.....	1,037.50
Missouri.....	4,822.50		
Nebraska.....	1,677.50		
New Jersey.....	1,127.50		
			<u>47,505.00</u>

The money was made available November 27, 1933, and will be obligated during the fiscal year 1934.

1. The first part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list is as follows:

Mr. A. B. C.	123 Main St.
Mr. D. E. F.	456 Elm St.
Mr. G. H. I.	789 Oak St.
Mr. J. K. L.	101 Pine St.
Mr. M. N. O.	202 Cedar St.
Mr. P. Q. R.	303 Birch St.
Mr. S. T. U.	404 Spruce St.
Mr. V. W. X.	505 Fir St.
Mr. Y. Z. A.	606 Willow St.
Mr. B. C. D.	707 Poplar St.
Mr. E. F. G.	808 Ash St.
Mr. H. I. J.	909 Hickory St.
Mr. K. L. M.	1010 Sycamore St.
Mr. N. O. P.	1111 Magnolia St.
Mr. Q. R. S.	1212 Dogwood St.
Mr. T. U. V.	1313 Redwood St.
Mr. W. X. Y.	1414 Cypress St.
Mr. Z. A. B.	1515 Juniper St.
Mr. C. D. E.	1616 Palm St.
Mr. F. G. H.	1717 Olive St.
Mr. I. J. K.	1818 Pear St.
Mr. L. M. N.	1919 Apple St.
Mr. O. P. Q.	2020 Cherry St.
Mr. R. S. T.	2121 Peach St.
Mr. U. V. W.	2222 Plum St.
Mr. X. Y. Z.	2323 Lemon St.
Mr. A. B. C.	2424 Orange St.
Mr. D. E. F.	2525 Grape St.
Mr. G. H. I.	2626 Strawberry St.
Mr. J. K. L.	2727 Raspberry St.
Mr. M. N. O.	2828 Blueberry St.
Mr. P. Q. R.	2929 Blackberry St.
Mr. S. T. U.	3030 Elderberry St.
Mr. V. W. X.	3131 Mulberry St.
Mr. Y. Z. A.	3232 Fig St.
Mr. B. C. D.	3333 Kiwi St.
Mr. E. F. G.	3434 Papaya St.
Mr. H. I. J.	3535 Mango St.
Mr. K. L. M.	3636 Pineapple St.
Mr. N. O. P.	3737 Watermelon St.
Mr. Q. R. S.	3838 Cantaloupe St.
Mr. T. U. V.	3939 Honeydew St.
Mr. W. X. Y.	4040 Pumpkin St.
Mr. Z. A. B.	4141 Turnip St.
Mr. C. D. E.	4242 Beet St.
Mr. F. G. H.	4343 Carrot St.
Mr. I. J. K.	4444 Potato St.
Mr. L. M. N.	4545 Corn St.
Mr. O. P. Q.	4646 Wheat St.
Mr. R. S. T.	4747 Rice St.
Mr. U. V. W.	4848 Barley St.
Mr. X. Y. Z.	4949 Oats St.
Mr. A. B. C.	5050 Rye St.
Mr. D. E. F.	5151 Sorghum St.
Mr. G. H. I.	5252 Millet St.
Mr. J. K. L.	5353 Buckwheat St.
Mr. M. N. O.	5454 Amaranth St.
Mr. P. Q. R.	5555 Quinoa St.
Mr. S. T. U.	5656 Chia St.
Mr. V. W. X.	5757 Flax St.
Mr. Y. Z. A.	5858 Hemp St.
Mr. B. C. D.	5959 Cotton St.
Mr. E. F. G.	6060 Linen St.
Mr. H. I. J.	6161 Silk St.
Mr. K. L. M.	6262 Wool St.
Mr. N. O. P.	6363 Leather St.
Mr. Q. R. S.	6464 Rubber St.
Mr. T. U. V.	6565 Plastic St.
Mr. W. X. Y.	6666 Glass St.
Mr. Z. A. B.	6767 Metal St.
Mr. C. D. E.	6868 Stone St.
Mr. F. G. H.	6969 Wood St.
Mr. I. J. K.	7070 Paper St.
Mr. L. M. N.	7171 Ink St.
Mr. O. P. Q.	7272 Paint St.
Mr. R. S. T.	7373 Dye St.
Mr. U. V. W.	7474 Soap St.
Mr. X. Y. Z.	7575 Shampoo St.
Mr. A. B. C.	7676 Lotion St.
Mr. D. E. F.	7777 Cream St.
Mr. G. H. I.	7878 Butter St.
Mr. J. K. L.	7979 Cheese St.
Mr. M. N. O.	8080 Meat St.
Mr. P. Q. R.	8181 Fish St.
Mr. S. T. U.	8282 Eggs St.
Mr. V. W. X.	8383 Milk St.
Mr. Y. Z. A.	8484 Yogurt St.
Mr. B. C. D.	8585 Ice Cream St.
Mr. E. F. G.	8686 Candy St.
Mr. H. I. J.	8787 Chocolate St.
Mr. K. L. M.	8888 Sugar St.
Mr. N. O. P.	8989 Salt St.
Mr. Q. R. S.	9090 Pepper St.
Mr. T. U. V.	9191 Vinegar St.
Mr. W. X. Y.	9292 Oil St.
Mr. Z. A. B.	9393 Honey St.
Mr. C. D. E.	9494 Jam St.
Mr. F. G. H.	9595 Marmalade St.
Mr. I. J. K.	9696 Syrup St.
Mr. L. M. N.	9797 Gelatin St.
Mr. O. P. Q.	9898 Starch St.
Mr. R. S. T.	9999 Flour St.

2. The second part of the document is a list of names and addresses of the members of the committee. The names are listed in alphabetical order, and the addresses are listed below each name. The list is as follows:

Mr. A. B. C.	123 Main St.
Mr. D. E. F.	456 Elm St.
Mr. G. H. I.	789 Oak St.
Mr. J. K. L.	101 Pine St.
Mr. M. N. O.	202 Cedar St.
Mr. P. Q. R.	303 Birch St.
Mr. S. T. U.	404 Spruce St.
Mr. V. W. X.	505 Fir St.
Mr. Y. Z. A.	606 Willow St.
Mr. B. C. D.	707 Poplar St.
Mr. E. F. G.	808 Ash St.
Mr. H. I. J.	909 Hickory St.
Mr. K. L. M.	1010 Sycamore St.
Mr. N. O. P.	1111 Magnolia St.
Mr. Q. R. S.	1212 Dogwood St.
Mr. T. U. V.	1313 Redwood St.
Mr. W. X. Y.	1414 Cypress St.
Mr. Z. A. B.	1515 Juniper St.
Mr. C. D. E.	1616 Palm St.
Mr. F. G. H.	1717 Olive St.
Mr. I. J. K.	1818 Pear St.
Mr. L. M. N.	1919 Apple St.
Mr. O. P. Q.	2020 Cherry St.
Mr. R. S. T.	2121 Peach St.
Mr. U. V. W.	2222 Plum St.
Mr. X. Y. Z.	2323 Lemon St.
Mr. A. B. C.	2424 Orange St.
Mr. D. E. F.	2525 Grape St.
Mr. G. H. I.	2626 Strawberry St.
Mr. J. K. L.	2727 Raspberry St.
Mr. M. N. O.	2828 Blueberry St.
Mr. P. Q. R.	2929 Blackberry St.
Mr. S. T. U.	3030 Elderberry St.
Mr. V. W. X.	3131 Mulberry St.
Mr. Y. Z. A.	3232 Fig St.
Mr. B. C. D.	3333 Kiwi St.
Mr. E. F. G.	3434 Papaya St.
Mr. H. I. J.	3535 Mango St.
Mr. K. L. M.	3636 Pineapple St.
Mr. N. O. P.	3737 Watermelon St.
Mr. Q. R. S.	3838 Cantaloupe St.
Mr. T. U. V.	3939 Honeydew St.
Mr. W. X. Y.	4040 Pumpkin St.
Mr. Z. A. B.	4141 Turnip St.
Mr. C. D. E.	4242 Beet St.
Mr. F. G. H.	4343 Carrot St.
Mr. I. J. K.	4444 Potato St.
Mr. L. M. N.	4545 Corn St.
Mr. O. P. Q.	4646 Wheat St.
Mr. R. S. T.	4747 Rice St.
Mr. U. V. W.	4848 Barley St.
Mr. X. Y. Z.	4949 Oats St.
Mr. A. B. C.	5050 Rye St.
Mr. D. E. F.	5151 Sorghum St.
Mr. G. H. I.	5252 Millet St.
Mr. J. K. L.	5353 Buckwheat St.
Mr. M. N. O.	5454 Amaranth St.
Mr. P. Q. R.	5555 Quinoa St.
Mr. S. T. U.	5656 Chia St.
Mr. V. W. X.	5757 Flax St.
Mr. Y. Z. A.	5858 Hemp St.
Mr. B. C. D.	5959 Cotton St.
Mr. E. F. G.	6060 Linen St.
Mr. H. I. J.	6161 Silk St.
Mr. K. L. M.	6262 Wool St.
Mr. N. O. P.	6363 Leather St.
Mr. Q. R. S.	6464 Rubber St.
Mr. T. U. V.	6565 Plastic St.
Mr. W. X. Y.	6666 Glass St.
Mr. Z. A. B.	6767 Metal St.
Mr. C. D. E.	6868 Stone St.
Mr. F. G. H.	6969 Wood St.
Mr. I. J. K.	7070 Paper St.
Mr. L. M. N.	7171 Ink St.
Mr. O. P. Q.	7272 Paint St.
Mr. R. S. T.	7373 Dye St.
Mr. U. V. W.	7474 Soap St.
Mr. X. Y. Z.	7575 Shampoo St.
Mr. A. B. C.	7676 Lotion St.
Mr. D. E. F.	7777 Cream St.
Mr. G. H. I.	7878 Butter St.
Mr. J. K. L.	7979 Cheese St.
Mr. M. N. O.	8080 Meat St.
Mr. P. Q. R.	8181 Fish St.
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Mr. I. J. K.	9696 Syrup St.
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Mr. O. P. Q.	9898 Starch St.
Mr. R. S. T.	9999 Flour St.

BUREAU OF ANIMAL INDUSTRY

(a) General Administrative Expenses

Appropriation, 1932	\$185,575
Appropriation, 1933	184,025
Appropriation, 1934	170,915

Estimated Obligations, 1934	153,824
Budget Estimate, 1935	162,185

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>8,361</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
General Administration.	\$ 158,907	\$ 153,824	\$ 162,185	+ 8,361	- - -
<u>Unobligated:</u>					
Salary reduction.....	16,594	11,147	- - -	- - -	- - -
Working funds reduction	8,524	5,944	- - -	- - -	- - -
Total Appropriation.....	184,025	170,915	162,185	- 8,730(1)	

(1) This reduction of \$8,370 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$11,147
Curtailement in 1934 working funds	- 5,944
5% salary restoration	<u>+ 8,361</u>
	<u>- 8,730</u>

Work Done Under this Appropriation

This appropriation is used for payment of overhead charges difficult of allocation to individual divisions, or projects, as the expenses of the chief's office, including appropriation estimates, audits, appointments, library, and editorial activities.

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(b) Inspection and Quarantine

Appropriation, 1932 \$736,720
 Appropriation, 1933 740,030
Appropriation, 1934 689,660

Estimated Obligations, 1934 620,694
Budget Estimate, 1935 622,090

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 1,396

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
Obligated:					
Eradication of scabies in sheep.....	\$94,229	\$102,750	\$78,491	+ \$3,843	-\$28,102(2)
Eradication of scabies in cattle and horses..	98,863	66,750	91,087	+ 4,337	- - -
Control over interstate shipment of livestock.	263,268	261,060	273,632	+ 12,656	- 84(3)
Enforcement of the 28- hour law.....	27,625	25,940	27,236	+ 1,296	- - -
Investigation of the existence miscellaneous diseases.....	4,790	5,194	5,454	+ 260	- - -
Quarantine of animals at ports of entry.....	9,516	8,000	8,400	+ 400	- - -
Inspection of animals for import.....	56,616	52,000	54,600	+ 2,600	- - -
Supervision over the importation of animal by-products, forage, etc	86,127	72,000	75,840	+ 3,840	- - -
Inspection and testing animals for export....	7,103	7,000	7,350	+ 350	- - -
Total.....	648,340	620,694	622,090	+ 29,562	- 28,186
Unobligated:					
Salary reduction.....	65,616	41,131	- - -	- - -	- - -
Working funds reduction.	26,074	27,835	- - -	- - -	- - -
Total Appropriation.....	740,030	689,660	622,090	- 67,570 (1)	



(1) This reduction of \$67,570 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$41,131
Curtailments in 1934 working funds	- 27,835
Further reduction in working funds for 1935	
(\$28,102 for eradication of scabies in sheep	
and \$84 for rent under the project for control	
over interstate shipment of livestock)	- 28,186
5% salary restoration	+ 29,562
	<u>- 67,570</u>

The reduction of \$28,186 in working funds for 1935 includes:

(2) A decrease of \$28,102 on the item for eradication of scabies in sheep.

This will be met by a reduction in personnel and a consequent reduction in necessary travel expenses.

(3) A decrease of \$84 on the item for control over interstate shipment of

livestock. This is a reduction in rent on account of proposed moving from rented quarters into a Federal building.

Work Done Under this Appropriation

Work under this appropriation consists of the eradication of scabies in sheep and cattle, the inspection of southern cattle, the control of the interstate transportation of livestock, the inspection of vessels, the enforcement of the 28-hour law, the inspection and quarantine of imported animals, including the establishment and maintenance of quarantine stations, the supervision over the sanitary handling of hides, skins, wool and other animal by-products, feeding materials, and fertilizers offered for importation, the investigational and inspection activities relative to the existence of contagious diseases, and the inspection and mallein testing of animals. All these measures for the safeguarding of this country's livestock are regarded as essential to ward off calamitous results.

(c) Eradicating Tuberculosis

Appropriation, 1932	\$6,505,800
Appropriation, 1933	6,061,777
<u>Appropriation, 1934</u>	<u>5,945,360</u>

<u>Estimated Obligations, 1934</u>	<u>4,296,464</u>
<u>Budget Estimate, 1935</u>	<u>4,042,179</u>

Decrease, Budget 1935, compared with	
<u>Estimated Obligations, 1934</u>	<u>254,285</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
Obligated:					
Tuberculin testing of cattle at public stock yards.....	\$ 56,864	\$ 60,000	\$ 62,800	+ 2,800	- - -
Eradicating tuberculosis from herds of cattle and from circumscribed areas.....	1,011,376	911,464	953,212	+ 42,051	- 333 (2)
Indemnities for animals slaughtered on account of tuberculosis.....	3,501,415	3,300,000	3,000,000	- - -	-300,000 (3)
Investigation of animal tuberculosis.....	24,434	25,000	26,167	+ 1,167	- - -
Total.....	4,594,090	4,296,464	4,042,179	+ 46,048	-300,333
Unobligated:					
Salary reduction.....	94,726	61,415	- - -	- - -	- - -
Working funds reduction.....	1,372,961	1,587,481	- - -	- - -	- - -
Total Appropriation.....	6,061,777	5,945,360	4,042,179	- 1,903,181 (1)	

(1) This reduction of \$1,903,181 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$61,415
Curtailment in 1934 working funds	-1,587,481
Further reduction in working funds for 1935 ((\$333 under the project for eradicating tuberculosis from herds of cattle and from circumscribed areas, and \$300,000 for indemnities for animals slaughtered on account of tuberculosis).	- 300,333
5% salary restoration	+ 46,048
	<u>-1,903,181</u>

The reduction of \$300,333 in working funds for 1935 includes:

(2) A decrease of \$333 for eradicating tuberculosis from herds of cattle and from circumscribed areas. This decrease will be met in part by a reduction in rent on account of moving into a Federal building (\$106); and by a reduction of \$225 in the amount used for the payment of salaries.

(3) A decrease of \$300,000 for indemnities for animals slaughtered on account of tuberculosis. This decrease will be met by reducing the allotment of Federal indemnity funds to some of the States where the infection of tuberculosis has been greatly reduced.

Work Done Under this Appropriation

The object of this work is to assist in a campaign to control and eradicate tuberculosis among livestock under a uniform plan in cooperation with the States. This campaign was launched as a Federal aid project after an extensive survey showed the disease was spreading. The States and livestock owners have looked to the Federal Government for leadership in this work since its inauguration, and desire that this assistance be continued, as many failures occurred when independent efforts were employed. Approximately \$14,000,000 was appropriated last year by various States to assist in this campaign. The appropriation has been divided to provide for operating expenses for supervision and indemnity for animals slaughtered.

(d) Eradicating Cattle Ticks

Appropriation, 1932	\$771,900
Appropriation, 1933	724,400
<u>Appropriation, 1934</u>	<u>671,089</u>

<u>Estimated Obligations, 1934</u>	<u>536,871</u>
<u>Budget Estimate, 1935</u>	<u>399,306</u>

Decrease, Budget 1935, compared with	
Estimated Obligations, 1934	<u>137,565</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
Obligated:					
Eradicating Cattle Ticks..	\$ 646,666	\$ 536,871	\$ 399,306	+ \$ 17,435	-\$155,000(2)
Unobligated:					
Salary reduction.....	50,426	35,328	- - -	- - -	- - -
Working funds reduction..	27,286	98,890	- - -	- - -	- - -
Total Appropriation.....	724,400	671,089	399,306	- 271,783 (1)	

THE
FEDERAL
BUREAU OF INVESTIGATION

UNITED STATES DEPARTMENT OF JUSTICE

WASHINGTON, D. C.

REPORT OF THE DIRECTOR

TO THE ATTORNEY GENERAL

FOR THE YEAR 1914

(1) This reduction of \$271,783 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$35,328
Curtailments in 1934 working funds	- 98,890
Further reduction in working funds for 1935	-155,000
5% salary restoration	+ 17,435

-271,783

(2) A reduction in working funds of \$155,000. This decrease will be met by the employment of fewer temporary agents who are depended upon usually to carry on this work, amounting to \$154,028; and by reduction in rentals of \$972 by reason of moving into Federal buildings.

Work Done Under this Appropriation

This appropriation is used cooperatively for the payment of salaries and travel, and office expenses, of veterinarians and agents in Alabama, Arkansas, Florida, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas, and Virginia, in the eradication of the southern cattle tick, which spreads splenic fever infection among cattle. As counties are cleaned up they are released from Federal quarantine, and their surplus livestock may then be shipped to markets without restrictions. The States generally are contributing larger sums to this work than the appropriation provided by the Federal Government. The work is done under State laws and regulations, Federal money being expended for supervision, thus insuring that all measures of eradication be so carried out as to warrant the release of cleaned areas from quarantine.

Emergency Funds Applicable Under This Heading

An allotment under the National Industrial Recovery Act of \$976,956 has been made by the Civil Works Administration for the furtherance of cattle tick eradication, as follows:

(1) Florida, \$80,456, to be used for the construction of dipping vats. This involves the temporary employment of 450 men, and an expenditure of \$53,240 for materials.

(2) Louisiana, \$545,020. This sum is to be applied to the same purpose in a large number of parishes. The number of men to be employed was estimated at 3370, and the expenditure for materials at \$334,420.

(3) Texas, \$307,480, employing 2100 men, and expending \$217,400 for materials.

(e) Investigations in Animal Husbandry

Appropriations, 1932 \$723,400
 Appropriations, 1933 695,699(a)
Appropriations, 1934 637,150

Estimated Obligations, 1934 573,435
Budget Estimate, 1935 592,675

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 19,240

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary	Working Restoration Funds
Obligated:					
Swine investigations.....	\$ 38,177	\$ 46,910	\$ 48,944	+ \$ 2,034	- - -
Sheep and goat investi- gations.....	86,445	90,840	94,774	+ 3,934	- - -
Horse and mule investiga- tions.....	28,503	26,070	27,200	+ 1,130	- - -
Genetic research.....	13,616	17,870	18,644	+ 774	- - -
Beltsville Farm.....	52,907	34,630	35,395	+ 765	- - -
Beef cattle investigations	163,940	136,975	140,921	+ 6,150	-\$2,204(2)
Certification of pedigrees	3,716	5,227	5,455	+ 228	- - -
Poultry investigations....	158,150	145,188	148,430	+ 5,792	- 2,550(3)
Purchase of land, Glendale Arizona.....	4,500	- - -	- - -	- - -	- - -
Nutrition research.....	33,071	29,750	31,040	+ 1,290	- - -
Meat investigations.....	31,275	29,350	30,622	+ 1,272	- - -
Livestock production, Big Spring, Texas.....	12,250	10,625	11,250	+ 625	- - -
Physical improvements to The U. S. Experiment Farm, Brooksville, Fla.	19,599	- - -	- - -	- - -	- - -
Total.....	646,233	573,435	592,675	+ 23,994	- 4,754
Unobligated:					
Salary reduction.....	51,635	32,192	- - -	- - -	- - -
Working funds reduction...	511	31,523	- - -	- - -	- - -
Total Appropriation.....	698,699 (a)	637,150	592,675	- 44,475(1)	

(a) Includes \$674,600 in regular appropriation for 1933; \$4,500 of 1931 appropriation obligated in 1933 for purchase of land, Glendale, Ariz; and \$19,599 received by transfer from "Reserve for Impounded Balances."

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(1) This reduction of \$44,475 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$32,192
Curtailment in 1934 working funds	- 31,523
Further reduction in working funds for 1935 (\$2,204 for beef cattle investigations, and \$2,550 for poultry investigations)	- 4,754
5% salary restoration	+ 23,994
	<u>- 44,475</u>

The reduction of \$4,754 in working funds for 1935 includes:

(2) A decrease of \$2,204 on beef cattle investigations. This decrease contemplates the abolition of rents paid for parcels of land purchased or to be purchased at Beltsville, Maryland.

(3) A decrease of \$2,550 on poultry investigations. This decrease will be met by a reduction in wage payments to laborers on poultry projects.

Work Done Under this Appropriation

The animal husbandry investigations of the Bureau of Animal Industry deal with the collection and dissemination of information on livestock problems of regional and national importance having to do with the breeding, feeding, and management of domestic farm animals, including poultry. Results are measured in terms of quantity and quality of the animals and their products, such as meat, eggs, wool, mohair, and farm power. These experiments often are conducted in cooperation with other bureaus and divisions of the Department, with one or a group of State agricultural experiment stations, with farmers and other agencies.

Emergency Funds Applicable Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$1,520,835 have been made, including \$1,155,835 by the Public Works Administration and \$365,000 by the Civil Works Administration, for physical improvements to experiment stations, as follows:

<u>State</u>	<u>Location</u>	<u>P.W.A.</u>	<u>C.W.A.</u>
Arizona	Glendale	\$22,875	\$5,000
Florida	Brooksville	51,375	50,000
Georgia	Tifton	- - -	10,000
Idaho	Dubois	14,250	20,000
Maryland	Beltsville	966,910	150,000
Mississippi	McNeill	4,875	10,000
Montana	Miles City	72,300	75,000
South Dakota	Ardmore	- - -	15,000
Vermont	Middlebury	23,250	30,000
		<u>1,155,835</u>	<u>365,000</u>

(f) Investigations of Diseases of Animals

Appropriation, 1932 \$460,000
 Appropriation, 1933 422,950
Appropriation, 1934 375,000

Estimated Obligations, 1934 335,046
Budget Estimate, 1935 334,324

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 722

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Pathological investigations of diseases of livestock	\$50,518	\$54,508	\$54,143	+\$2,635	-\$3,000(2)
Pathological investigations of diseases of poultry	21,251	21,990	21,933	+ 993	- 1,000(3)
Pathological investiga- tions of stock poison- ing by plants.....	20,121	19,121	19,021	+ 900	- 1,000(4)
Biological investigations of diseases of animals	7,119	10,572	10,887	+ 315	- - -
Index catalog and collec- tion of parasites.....	6,298	6,859	7,063	+ 204	- - -
Investigation of poultry parasites.....	18,852	14,450	14,882	+ 432	- - -
Investigation of swine parasites.....	17,188	18,000	17,873	+ 873	-1,000(5)
Investigation of rumi- nant parasites.....	100,061	83,810	84,083	+ 3,273	-3,000(6)
Investigation of horse parasites.....	2,738	8,075	8,315	+ 240	- - -
Investigation of miscel- laneous parasites.....	11,203	13,685	13,426	+ 741	-1,000(7)
Investigation of treatment of livestock for internal and external parasites	8,564	8,670	8,511	+ 466	- 625(8)
Breeding and feeding small animals for dis- ease research.....	7,640	7,920	8,157	+ 237	- - -
Investigation and control of contagious abortion of animals.....	88,469	67,386	65,980	+ 3,594	-5,000(9)
Total	360,022	335,046	334,324	+ 14,903	-15,625
<u>Unobligated:</u>					
Salary reduction.....	30,530	20,704	- - -	- - -	- - -
Working funds reduction.	32,398	19,250	- - -	- - -	- - -
Total Appropriation	422,950	375,000	334,324	- 40,676 (1)	

(1) This reduction of \$40,676 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$20,704
Curtailment in 1934 working funds	- 19,250
Further reduction in working funds for 1935 (\$3,000 for pathological investigations of diseases of livestock, \$1,000 for pathological investigations of diseases of poultry, \$1,000 for pathological investigations of stock poisoning by plants, \$1,000 for investigation of swine parasites, \$3,000 for investigation of ruminant parasites, \$1,000 for investigation of miscellaneous parasites, \$625 for investigation of treatment of livestock for internal and external parasites, and \$5,000 for investigation and control of contagious abortion of animals) . . .	- 15,625
5% salary restoration	+ 14,903
	<u>- 40,676</u>

The reduction of \$15,625 in working funds for 1935 includes:

(2) A decrease of \$3,000 in pathological investigations of diseases of livestock. This will be reflected in the inquiries on swine erysipelas which have progressed to such a point that only a limited amount of study is now necessary to make certain refinements on the agglutination test which has been developed in the last two years as a diagnostic agent.

(3) A decrease of \$1,000 in pathological investigations of diseases of poultry. Work in the past few years has developed a practical method of controlling and diagnosing pullorum disease. Limited investigations on the spread of the disease in adult birds are still in progress along with other minor phases of the inquiry.

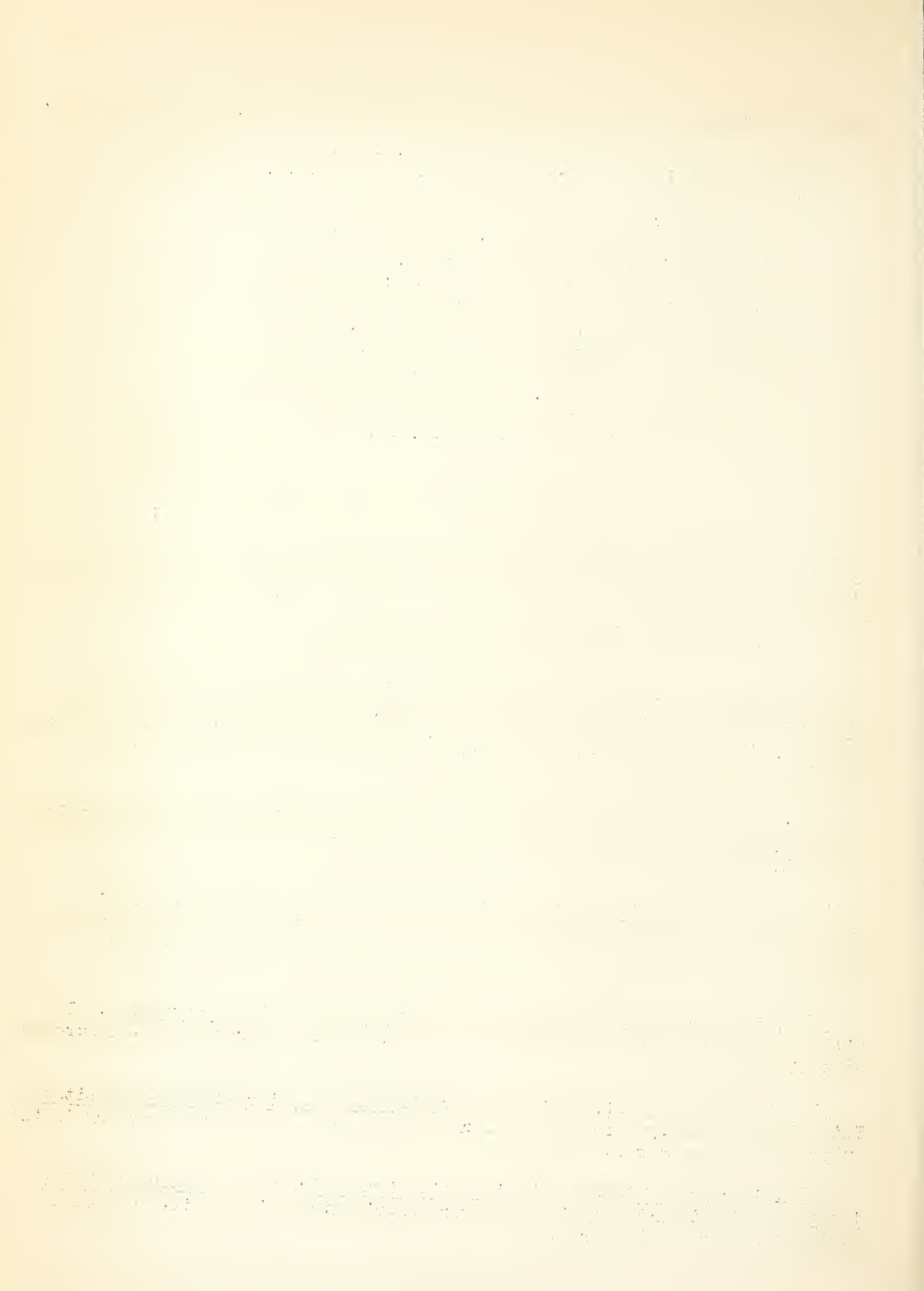
(4) A decrease of \$1,000 in the pathological investigations of stock poisoning by plants. This will be taken up by a reduction in the personnel engaged on the project.

(5) A decrease of \$1,000 in the investigation of swine parasites. This will be met by suspension of the research work on trichinosis on the ground that the study has been carried to such a point that immediate further investigation is not urgent.

(6) A decrease of \$3,000 in the investigation of ruminant parasites. This will be taken care of by a reduction in the expenses of travel and the purchase of equipment.

(7) A decrease of \$1,000 in the investigation of miscellaneous parasites. This will be done by a lapse of salary consequent on an expected vacancy in the subproject on tapeworms.

(8) A decrease of \$625 in the investigation of treatment of livestock for internal and external parasites. Fewer experimental animals will be needed during the year on this project.



(9) A decrease of \$5,000 in the investigation and control of contagious abortion of animals. It has been the practice to carry on this investigation in cooperation with the experiment stations of seven States, allotting a small sum to each. Certain phases of the inquiry have reached a point where these allotments may be reduced.

Change in Language

The change of language proposed in this item, whereby the words "and improvements" in line 4, and the words "and the necessary alteration of buildings thereon", are omitted, is submitted because it is anticipated that the bureau experiment station at Bethesda, Maryland, will be moved to Beltsville, Maryland, during the next twelve months. Improvements and alterations of existing buildings at the station will therefore be unnecessary.

Work Done Under This Appropriation

The basic research and experimental work in animal diseases and parasites is conducted under this appropriation. It is essential to know the cause of disease and mode of dissemination, the life histories of parasites and their resistance to atmospheric conditions and chemicals before any effectual control or eradication methods may be devised and applied to either disease or parasites. This essential knowledge is gained only through research and experimentation.

Emergency Funds Applicable Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$347,980 have been made by the Public Works Administration for physical improvements, as follows:

(1) Maryland, Beltsville Farm, animal parasite studies: \$32,980 for roads, repairs to buildings, fences, water system, clearing, new poultry parasite laboratory, animal shelters, an isolation laboratory, and a main laboratory building.

(2) Maryland, Beltsville Farm: \$265,000 for moving the animal disease research station from Bethesda, Maryland, and relocating this work at Beltsville, Maryland.

(g) Investigation, Eradication, and Control of Hog Cholera

Appropriation, 1932	\$499,480
Appropriation, 1933	466,380
<u>Appropriation, 1934</u>	<u>420,000</u>

<u>Estimated Obligations, 1934</u>	<u>357,398</u>
<u>Budget Estimate, 1935</u>	<u>340,515</u>

Decrease, Budget 1935, compared with	
Estimated Obligations, 1934	<u>16,883</u>

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Hog cholera control looking to eradication....	\$147,133	\$127,568	\$116,732	+\$1,634	-\$12,470(2)
Investigation of methods of producing immunization against hog cholera	20,064	20,430	20,853	+ 1,423	- 1,000(3)
Investigation of modes of dissemination of hog cholera.....	4,354	4,500	4,667	+ 167	- - -
Control of manufacture, importation, and shipment of viruses, serums, toxins, etc.	236,175	204,900	198,253	+ 13,369	- 20,006(4)
Total.....	407,726	357,398	340,515	+ 16,593	- 33,476
<u>Unobligated:</u>					
Salary reduction.....	40,530	24,433	- - -	- - -	- - -
Working funds reduction..	18,124	38,169	- - -	- - -	- - -
Total Appropriation.....	466,380	420,000	340,515	- 79,485 (1)	

(1) This reduction of \$79,485 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$24,433
Curtailment in 1934 working funds	- 38,169
Further reduction in working funds for 1935 (\$12,470 for hog cholera control looking to eradication, \$1,000 for investigation of methods of producing immunization against hog cholera, and \$20,006 for control of manufacture, importation, and shipment of viruses, serums, toxins, etc.)	- 33,476
5% salary restoration	+16,593
	<u>- 79,485</u>

The reduction of \$33,476 in working funds for 1935 includes:

(2) A decrease of \$12,470 for hog cholera control looking to eradication.

This decrease will be arranged for by a reduction in the personnel, estimated to be equivalent to the services of four veterinarians, and their necessary travel. This disease, owing to the more general use of preventive serums, and the better sanitation advocated by the Bureau, has become less prevalent, and it is believed that the remaining force will be ample to cope with the situation in 1935.

(3) A decrease of \$1,000 for the investigation of methods of producing immunization against hog cholera. This decrease will be absorbed in the curtailment of serum production--\$300 in purchase of supplies, \$500 in travel, and \$200 in purchase of equipment.

(4) A decrease of \$20,006 for the control of manufacture, importation, and shipment of viruses, serums, toxins, etc. This work is regulatory, being the supervision required by law over the plants manufacturing animal biologics. By careful rearrangement of the forces, a reduction of approximately eleven inspectors will be made thus absorbing the amount of decrease.

Work Done Under this Appropriation

Hog cholera is the most destructive disease of swine in our country. The direct annual losses have varied from eighteen to sixty-five million dollars annually. Funds appropriated for hog-cholera work are used to study the disease, including the ways by which it is disseminated and the most effectual means of prevention to cooperate with the various States in control measures, and the supervision of the commercial production of biological products, including anti-hog-cholera serum and virus under the provisions of the Virus, Serum, Toxins Act.

(h) Eradicating Dourine

Appropriation, 1932	\$32,300
Appropriation, 1933	29,900
<u>Appropriation, 1934</u>	<u>25,000</u>

<u>Estimated Obligations, 1934</u>	<u>7,500</u>
<u>Budget Estimate, 1935</u>	<u>7,871</u>

Increase, Budget 1935, prepared with	
Estimated Obligations, 1934	<u>371</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Eradicating dourine.....	\$9,929	\$7,500	\$7,871	+ \$371	- - -
<u>Unobligated:</u>					
Salary reductions.....	986	495	- - -	- - -	- - -
Working funds reduction..	18,985	17,005	- - -	- - -	- - -
Total Appropriation.....	29,900	25,000	7,871	- 17,129(1)	

(1) This reduction of \$17,129 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$495
Curtailment in 1934 working funds	-17,005
5% salary restoration	+ 371
	<u>-17,129</u>

Work Done Under this Appropriation

In cooperation with State livestock sanitary authorities and on Indian reservations with the Office of Indian Affairs, horses in areas where the infection of dourine is believed to exist are rounded up and samples of blood obtained for subjection to a laboratory test. Horses reacting to the test are slaughtered and owners other than Indians on a reservation indemnified by the State and Federal Government. Indemnity to Indians is paid by the Office of Indian Affairs. Surplus stallions are castrated. Wherever possible the roundup in the early summer is followed by a further roundup and retest later in the season. It is hoped that with more vigorous efforts, especially on the Indian reservations, this malady may soon be completely exterminated.

(i) Packers and Stockyards Administration

Appropriation, 1932	\$402,880
Appropriation, 1933	374,700
<u>Appropriation, 1934</u>	<u>350,200</u>

<u>Estimated Obligations, 1934</u>	<u>294,168</u>
<u>Budget Estimate, 1935</u>	<u>307,493</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>13,325</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Working Restoration: Funds	
<u>Obligated:</u>					
Enforcement of the Packers and Stockyards Act.....	\$323,748	\$294,168	\$307,493	+ \$13,430	- \$105(2)
<u>Unobligated:</u>					
Salary reduction.....	29,349	17,907	- - -	- - -	- - -
Working funds reduction...	21,603	38,125	- - -	- - -	- - -
Total Appropriation.....	374,700	350,200	307,493	- 42,707(1)	

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(1) This reduction of \$42,707 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$17,907
Curtailment in 1934 working funds	- 38,125
Further reduction in working funds for 1935	- 105
5% salary restoration	+ <u>13,430</u>
	- <u>42,707</u>

(2) A reduction in working funds of \$105. This decrease will be met by a reduction in rent because of moving from rented quarters into a Federal building.

Work Done Under this Appropriation

The work under this appropriation embraces supervision of the business of packers, stockyard owners, market agencies, and dealers engaged in interstate commerce, and includes regulation of practices and rates and charges for service rendered at posted stockyards. Jurisdiction is exercised, through 20 field offices, over approximately 1,300 market agencies and 3,200 dealers at 73 stockyards. Varied activities are carried on under this project, the more important of which are (1) registration and bonding of market agencies and dealers; (2) investigations of complaints as to unfair and unjustly discriminatory practices; (3) supervision of the testing and maintenance of livestock scales at the various markets; (4) valuation of the properties of stockyard companies, which includes inventories and appraisals of the real estate and physical structures of such companies, together with comprehensive analyses of their financial operations and organization and complete audits of their books and records, for the purpose of obtaining information for the use of the Secretary in determining the reasonableness and lawfulness of rates and charges for stockyard services; and (5) investigations of the operations of commission men and audits and analyses of their books and records in connection with the determination of rates which would be reasonable for them to charge for the purchase and sale of livestock at public markets.

(j) Meat Inspection

Appropriation, 1932	\$5,661,140(a)
Appropriation, 1933	5,604,860(a)
<u>Appropriation, 1934</u>	<u>5,074,590(a)</u>

<u>Estimated Obligations, 1934</u>	<u>4,567,131(b)</u>
<u>Budget Estimate, 1935</u>	<u>4,828,823(a)</u>

Increase, Budget 1935, compared with	
Estimated Obligations, 1934	<u>261,692</u>



PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
Obligated:					
Special supervisory inspection	\$9,335	\$9,350	\$9,895	+ 545	- - -
Laboratory inspection.....	74,643	75,500	79,904	+ 4,404	- - -
Ante-mortem inspection of animals for slaughter....	260,674	245,930	260,276	+ 14,346	- - -
Post-mortem inspection of animals.....	2,308,410	2,216,361	2,344,676	+129,779	-\$1,464(2)
Control over the preparation of meats and meat food products.....	2,061,721	1,976,995	2,088,570	+111,575	- - -
Inspection at public markets	613	750	794	+ 41	- - -
Control over operations conducted under certificates of exemption.....	1,542	1,750	1,852	+ 102	- - -
Inspection of imported meats and meat food products	25,041	25,375	26,855	+ 1,480	- - -
Chemical investigations of meats and meat food products	6,641	6,660	7,048	+ 388	- - -
Investigation of pathological conditions noted during meat inspection...	7,277	8,460	8,953	+ 493	- - -
Total.....	4,755,897	4,567,131	4,828,823	+263,156	-1,464
Unobligated:					
Salary reductions.....	557,969	350,875	- - -	- - -	- - -
Working funds reduction...	290,994	156,584	- - -	- - -	- - -
Total Appropriation.....	5,604,860 (a)	5,074,590 (a)	4,828,823 (a)	- 245,767(1)	

(a) Includes \$3,000,000 permanent annual appropriation.

(b) Includes \$2,550,000, the balance warranted to the Department by the Treasury, under instructions from the Director of the Bureau of the Budget, of the \$3,000,000 permanent annual appropriation. The reduction, 15% of the appropriation, was made under authority conferred upon the Director of the Bureau of the Budget by Sec. 5 (c) of the Treasury-Post Office appropriation act for 1934, of March 3, 1933, to reduce specific annual appropriations during the fiscal year 1934 by savings estimated to be effected by Secs. 5 and 7 of said act.

(1) This reduction of \$245,767 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$350,875
Curtailments in 1934 working funds	- 156,584
Further reduction in working funds for 1935	- 1,464
5% salary restoration	+ 263,156
	<u>- 245,767</u>

(2) A decrease in working funds of \$1,464. This decrease will be met by a reduction in rent because of moving from rented quarter into a Federal building.

Work Done Under this Appropriation

The purpose of the meat inspection service is to detect, eliminate and dispose of carcasses and meat food products found to be diseased, unwholesome, or otherwise unfit for human food; to see that meat and meat food products for human consumption are prepared in a cleanly manner; to guard against the use of harmful dyes, chemicals, and other deleterious substances; to prevent the use of false or misleading names or statements on labels; and to supervise the interstate transportation, exportation, and importation of meat and meat food products.

(k) Eradicating Food-and-Mouth and Other Contagious Diseases of Animals.

This item is continued for the fiscal year 1935 and the unexpended balance of the appropriation of \$3,500,000 made available in 1924 to be used in case of an emergency arising from an outbreak of foot-and-mouth or other contagious disease of animals is made available in 1935 should such an emergency arise. The unexpended balance on June 30, 1933, was \$1,323,809 and no expenditures are contemplated during the fiscal year 1934 unless an emergency arises.

Authorization covering purchase of
Passenger-carrying Vehicles

A small increase--\$285--is indicated in this item over 1934. Of the 19 additional cars which it is proposed to add to the Bureau's fleet, 14 are to be used in the animal disease eradication work on bovine tuberculosis and the Texas fever cattle tick. They will supply more economical transportation to veterinarians, who are now authorized to use their own cars at a greater cost to the Government. Two of the added cars are to be used on the hog-cholera control project, also reducing the present expense of hired transportation. The other three cars are for the use of the superintendent of the experiment station at Miles City (a huge tract of 50,000 acres), the station at Jeanerette, Louisiana, and the one at Brooksville, Florida, both of such considerable area as to make a small car indispensable for visiting the remoter sections.

Emergency Funds Applicable
to Subsistence Homesteads

Allotments under the National Industrial Recovery Act amounting to \$226,540 have been made by the Civil Works Administration for planning and developing of land for the Department of the Interior, including drainage, roads, fencing, sewage, and seeding approximately 1500 acres of a 3000-acre tract in a subsistence homestead project, to be located on lands adjacent to the Beltsville, Maryland farm of the Bureau. At the request of the Department of the Interior this work is supervised and carried out by this Bureau because of the proximity of the land, and the fact that the Bureau is supplied with tools and machinery used in similar work on its own acreage.

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NOTE: Also see Miscellaneous Section for "Experiments in Livestock Production in Southern United States."

BUREAU OF DAIRY INDUSTRY

(a) General Administrative Expenses

Appropriation, 1932	\$69,580
Appropriation, 1933	69,380
<u>Appropriation, 1934</u>	<u>64,265</u>

<u>Estimated Obligations, 1934</u>	<u>53,500</u>
<u>Budget Estimate, 1935</u>	<u>56,514</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>3,014</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Administration.....	\$64,142	\$53,500	\$56,514	+ \$3,014	--
<u>Unobligated:</u>					
Salary reduction.....	6,457	3,888	--	--	--
Working funds reduction	1,781	6,877	--	--	--
Total Appropriation.....	69,380	64,265	56,514	-- 7,751 (1)	

(1) This reduction of \$7,751 below the appropriation for 1934 consists of:

Impoundment of 6-2/3 of 15% pay cut	- \$3,888
Curtailments in 1934 working funds	- 6,877
5% salary restoration	+ 3,014
	<u>- 7,751</u>

Work Done Under This Appropriation

The work conducted under this appropriation includes the direction of research, engineering, information, library and service activities, the administration of fiscal and property work, and general supervision of personnel.

(b) Dairy Investigations

Appropriation, 1932..... \$727,410
 Appropriation, 1933..... 648,068
Appropriation, 1934..... 590,365

Estimated Obligations, 1934..... 486,500
Budget Estimate, 1935..... 498,383

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 11,883

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Dairy Manufacturing In- vestigations & Introduc- tion	\$56,133	\$ 50,900	\$ 53,417	\$ + 2,517	- - -
Dairy Herd Improvement	46,689	46,100	48,525	+ 2,425	- - -
Dairy Cattle Breeding, Feeding & Management ...	113,501	105,250	104,609	+ 4,396	- 5,037 (2)
Ice Cream Investigations	11,494	11,000	11,600	+ 600	- - -
Butter & By-Products In- vestigations	22,557	21,750	22,329	+ 1,079	- - -
Condensed Milk & Milk Powder Investigations...	26,898	26,050	27,421	+ 1,371	- - -
Bacteriology & Chemistry of Milk	16,142	13,375	14,695	+ 720	- - -
Nutrition of Dairy Cows	52,734	51,350	53,567	+ 2,217	- - -
Cheese Manufacturing In- vestigations	25,890	25,800	24,867	+ 1,067	- - -
Market-Milk Investigations	22,411	25,150	26,354	+ 1,204	- - -
Operation & Maintenance, Beltsville, Md., Exp.Sta.	71,444	45,000	47,092	+ 2,092	- - -
Missouri (Nat.) Ext.Sta.	4,710	4,825	- - -	- - -	- 4,825 (3)
Huntley, Mont., Field Sta.	13,443	11,600	11,941	+ 341	- - -
Mandan, N.Dak., Field Sta.	15,300	13,525	13,992	+ 467	- - -
Woodward, Okla., Field Sta.	9,644	9,525	9,875	+ 350	- - -
Lewisburg, Tenn., Field Sta.	19,630	16,800	17,453	+ 653	- - -
South Carolina Exp. Sta.	12,526	9,900	10,146	+ 246	- - -
Total	541,146	486,500	498,383	+ 21,745	- 9,862
<u>Unobligated:</u>					
Salary reduction	45,800	28,677	- -	- -	- - -
Working funds reduction...	61,122	75,688	- -	- -	- - -
Total Appropriation	648,068	590,865	498,383	- 92,482 (1)	

1. The first part of the paper is devoted to a general discussion of the problem of the existence of a solution of the system of equations

$$\begin{cases} \Delta u = f(x, y, z, u, v, w) \\ \Delta v = g(x, y, z, u, v, w) \\ \Delta w = h(x, y, z, u, v, w) \end{cases}$$

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- (1) This decrease of \$91,518 below the appropriation for 1934 consists of:

Impoundment of 6 2/3% of 15% pay cut	\$ - 28,677
Curtailments in 1934 working funds	- 75,688
Further reduction in working funds for 1935... (\$5,037 for dairy cattle breeding, feeding and management, and \$4,825 for Missouri Exp. Station)	- 9,862
5% salary restoration	+ 21,745
	<u>- 92,482</u>

The reduction of \$9,862 in working funds for 1935 includes:

- (2) Curtailment of \$5,037 in expenditures for dairy cattle breeding, feeding, and management investigations.

(3) A decrease of \$4,825 is due to the discontinuance of Federal cooperation at the Hatch Experiment Station. This project was established in July, 1930 under which investigational work in dairy cattle breeding, feeding, and management are being conducted in cooperation with the Agricultural Experiment Station, University of Missouri. The Government has no investment at this station in land or buildings. While data accumulated to date is incomplete and probably of no value, due to the relatively short period of time the work has been under way, it will be possible to continue the breeding experiments by transferring the dairy herd to either the Lewisburg, Tennessee, or the Jennerette, Louisiana station, thereby avoiding a complete loss.

Work Done Under this Appropriation

This appropriation is used for scientific research and experimentation in practically all phases of the dairy industry, under the following projects:

Dairy Manufacturing Investigations and Introduction.

The work conducted under this project is designed to ascertain the need for new and/or improved processes of manufacture in order to enlarge the outlets for creamery and cheese factory by-products; to determine the factors affecting the quality of butter, cheese and other products of dairy manufacturing



plants, and to improve the market grades of these products. Other work conducted contemplates the development and introduction of a new process of packaging and ripening cheese, of better methods for making casein and other milk by-products, and the regulatory work incident to the enforcement of renovated butter act.

The application to commercial practices of the results obtained has resulted in increasing the value of Swiss cheese through an improvement in the quality of cheese manufactured. Adoption of approved manufacturing processes by creameries and cheese factories has resulted in increased returns to dairy farmers, and the prevention of cheese factory failures in certain Southern States. Casein manufacturers using the bureau's process have made a product that meets the highest requirements for all technical purposes.

Dairy Herd Improvement Investigations.

Under this project studies are made of feed and milk production records of cows on test in dairy herd-improvement associations to obtain accurate data for the intelligent selection and feeding of dairy cows according to their known producing ability, and of the lactation records of the daughters of dairy sires in herds on test in dairy herd-improvement associations to discover dairy sires that are transmitting to their offspring the factors for high milk and butterfat producing ability.

The purposes of this work are the development of methods that lead to efficiency and economy of milk production, the elimination of low and inefficient producing cows, the use of better sires, and the adoption of better feeding practices. The results show that cows on test in dairy herd-improvement associations produce 80 percent more butterfat per cow than the average for the United States, and that more than 10 percent of the cows in such associations are eliminated annually because they are inefficient and uneconomical producers.

The studies also indicate that the elimination of the lowest producing 10 percent of the dairy cows of this country would decrease production about 5 percent and that the elimination of the lowest producing 20 percent of our dairy cows would decrease production about 12 percent. There are at present only about a third of a million cows on test in dairy herd-improvement associations. If this work could be extended so as to place at least half of our dairy cows on test it would doubtless be possible to restrict or expand production so as to supply the effective demand at all times without creating a surplus.

This work is carried on in cooperation with 46 States. Its cost is borne largely by State organizations and dairy farmers, and the records obtained represent the most complete data available on production of dairy cows, and on the economy and efficiency of milk and butterfat production.

Dairy Cattle Breeding, Feeding, and Management.

The work of this project embraces fundamental research in all phases of dairy cattle breeding, feeding, and management. It is carried on largely at the dairy experiment stations at Beltsville, Md., Huntley, Mont., Mandan, N.Dak., Woodward, Okla., Lewisburg, Tenn., Columbia, S.C., and Jeanerette, La., and in cooperation with colleges and experiment stations in the States of California, Louisiana, Missouri, New Jersey, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, Utah, Washington, West Virginia, and Wyoming, along five general lines, as follows:



(a) General Breeding Investigations.

These investigations are designed to determine the comparative effects of out-breeding, line-breeding, and in-breeding, in fixing an inheritance for high and uniform levels of producing ability in dairy cows.

Out of this work has developed the plan of breeding pure lines for production by the continued use of meritoriously proved sires. It has led to the adoption by the National Breed Associations of methods of sire analysis. The herds at the several dairy experiment stations are yielding the most complete scientific data on dairy cattle breeding ever assembled in the history of livestock breeding. Studies of the results secured in these herds and by analysis of other available data are used to illustrate the workings of the laws of heredity and their application to the problems of breeding better dairy cattle.

(b) Relation of Conformation to Producing Ability.

These investigations have for their purpose determination of the relationship, if any, between conformation and anatomy of dairy cows to their producing ability to establish, if possible, a scientific basis for judging and selecting dairy cattle from outward appearances. The judging of the milk and butterfat producing ability of cows by outward appearances is being taught in the various agricultural schools and colleges without any fundamental data in support of the theories being taught. Many established theories of judging the producing ability of cows on the basis of "type" have already been disapproved. The object of this project is to establish a scientific basis for judging the producing ability of dairy cows. Detailed studies are made of the udders of animals of known producing ability. Weights and measurements of the vital organs of these cows are also taken to study their relationship to the function of milk secretion. Nineteen State Experiment Stations are cooperating.

(c) Fertility Investigations and Health of Herd.

The investigations conducted under this project contemplate a determination of the effect of various factors on the fertility of dairy animals. Few sires breed beyond 10 years of age and their transmitting ability cannot be definitely established until they are from 6 to 8 years of age. Sterility in dairy cows is causing enormous losses to dairy farmers annually. It is estimated that approximately 20 percent of all cows eliminated from all dairy herds of the country are disposed of because of sterility. The object of the work being conducted, therefore, is to determine the effect of certain dietary regimes in the correction and prevention of certain forms of sterility and the effect of consistent exercise on the fertility of males and females. This work is especially important in extending the useful life of valuable breeding sires. Many cases of sterility have been corrected by control of the diet and through exercise. Through the development of methods by which sperm cells may be kept viable, some success is being obtained by artificial insemination. More complete knowledge of the sperm cell, its natural environment, and methods of keeping viable for long periods of time to facilitate artificial insemination is being sought. The normal reactions of female generative organs are also being investigated.

(d) Milk Secretion and Reproduction Investigations.

Work is being done on the rate and amounts of milk secretion from the individual quarters of the udder; the factors controlling secretion; types of mammary tissue and other factors that may make possible the elimination of stripping in the milking operation. Milk secretion experiments have indicated that a secretion of the pituitary gland is an important agent in normal milk secretion in dairy cows and may prove low production in some animals to be the result of a deficiency of this hormone, possibly hereditary in some strains. The effects of certain hormone injections in prolonging the period of fertility in aged bulls are being studied.

(e) Feeding and Management Investigations.

Investigations are conducted under this project to determine the influence of various feedstuffs on growth and milk production of dairy cows; the comparative values of various roughages when cut at different stages of maturity and when made into hay or silage; the effect of fertilization and rotational grazing on the value of pastures for milk production, and the effect of various methods of handling, milking, feeding, exercising, and pasturing on the economy and level of milk production. Artificial drying of roughages is being tried out experimentally. Results of tests designed to discontinue "stripping" in the milking operation, show no deleterious effects on yield or udder. These investigations have disclosed that contrary to the usual opinion cows in thin flesh produce about as well as cows carrying considerable flesh at time of freshening. The general results of the feeding and herd management investigations conducted under this item have developed methods which, if adopted by dairy farmers, will materially reduce their production costs. When prices for milk and butterfat are low, more dependence should be put on a roughage ration, with a lower but more profitable production.

The determination of feeding methods and rations for calves to reduce mortality and assure growth during the early months of life is also an important phase of the work. It has been ascertained that extending the feeding period of skim milk from 6 to 12 months, has greatly stimulated growth of the animals. Heifers fed good roughages alone from 8 months of age are as large at two years of age as heifers fed continuously on grain.

Ice Cream Investigations.

Investigational work under this project involves a determination of the physical and chemical factors incident to the manufacture of ice cream, with especial reference to the quality of the finished product. These investigations are designed to overcome manufacturing difficulties, to develop methods of manufacture whereby the quantity of milk solids may be increased, and the quality of product improved.

As a result of the work conducted the amount of butterfat used in the manufacture of ice cream has increased approximately 32,000,000 pounds annually. Present investigations involve methods of manufacture which, when

applied, should not only increase this figure but should materially increase the use of milk-solids-not-fat in ice cream.

This work in its relation to producers and consumers is of the greatest economic importance, in that its application to the ice cream industry will increase the market for milk and at the same time insure a higher quality product.

Butter and By-Products Investigations.

Objectionable flavors in storage butter result in a loss of millions of dollars annually. Methods for preventing these objectionable flavors require a more thorough knowledge of the chemistry of the changes occurring in butter.

The by-products of the butter industry are skim milk, buttermilk, and whey. At present these by-products are, to a large extent, wasted or inefficiently used. The manufacture of sweet cream butter, concentrated sour skim milk, casein, and a relatively inexpensive good grade of lactose, are some of the results of the work conducted. In the manufacture of butter and cheese there are approximately 38,000,000,000 pounds of skim milk, buttermilk, and whey produced annually containing 3,500,000,000 pounds of milk solids. The efficient utilization of these products in dry or some other converted form will materially increase the returns to producers.

Condensed Milk and Milk Powder.

Investigations have demonstrated that there are two types of milk differing greatly in their tendencies to coagulate upon sterilization. Variations in processing must be used to prevent defective product or loss of product during manufacture. A better knowledge of the characteristics of these milks is necessary for their identification, and better methods of processing are necessary to reduce losses and improve quality.

Improvement in quality and stability, and methods of use of powdered milks, through the application of the results of work done under this project have been factors in increasing consumption of these products by approximately 170,000,000 pounds or 300 percent, in 6 years. Further investigation of uses for dry skim milk and of the characteristics of fat deterioration in whole milk powder are essential to a greater utilization of these products.

Bacteriology and Chemistry of Milk.

The manufacture of all dairy products is based on the control of bacteriological and chemical changes in milk and the results of studies of these changes provide the basis for all laboratory investigation of an applied nature. Work in progress at present on properties of milk proteins gives indications of being of importance in various dairy manufacturing processes, particularly in cheese making. Work on the staining properties of living and dead bacteria is expected to produce results of importance in the study of



bacteriological changes in all food products as well as in dairy products alone. Work on factors influencing the germination and heat resistance of bacterial spores is of practical significance in all dairy processes in which preservation by heat is involved.

Evaporated milk, like all other canned foods, must be sterilized at high temperatures to destroy bacterial spores. If methods may be found for changing the heat resistance of the spores sterilization may be effected with less impairment of flavor, and the present extensive losses due to spoilage avoided.

Nutrition of Dairy Cows.

The work conducted under this project has for its purpose the determination of the nutritional requirements of dairy cattle (1) for growth, (2) for maintenance of normal health, (3) for normal reproduction and (4) for the process of milk secretion, as well as the most practical and economical methods of furnishing these requirements. It includes a study of the physiology of the above processes as influenced by the nutrition of the animal. The following problems are illustrative of the types of work conducted:

(1) Investigations of the physiology of phosphorus and calcium metabolism of dairy cattle, including work on the mineral requirements of dairy cattle; the effect of mineral deficiencies upon health, reproduction, and milk secretion; the effect of quality of hay upon the assimilation of the calcium and phosphorus in it; the effect of vitamin D content of the diet upon the assimilation of these elements by lactating cows; the feeding of lime and phosphorus supplements, etc.; (2) studies of the energy requirements of dairy cattle; (3) physiology of milk secretion as related to diet; (4) protein and amino acid requirements for maintenance, growth, and lactation; (5) the dietary requirements of dairy cattle that are furnished by roughages of various kinds and qualities, and (6) the vitamin requirements of dairy cattle, the vitamin content of feeds, and the variation in the vitamin content of milk.

Some of the work under this project involves feeding experiments running for several years. Other work involves metabolism studies lasting from a few weeks to several months. Although the work is directed toward the study of the nutrition of dairy cattle, small animals such as rats and rabbits are also used extensively in the experimental work.

Cheese Manufacturing Investigations.

Five hundred million pounds of cheese are produced annually in the United States. Investigations are conducted under this item of the biological and chemical factors involved in the production of the characteristic flavors and physical properties of various foreign and domestic varieties of cheese. It has for its purpose the improvement of the quality of domestic cheese to provide an additional market for milk by replacing seventy-five million pounds of high-priced imported cheese with cheese of domestic

manufacture. As a result of the work conducted under this project a Roquefort cheese made from cows' milk is now manufactured on a commercial scale. Intensive work has been carried on with Swiss cheese, since this variety presents greater difficulties in manufacture, inferior quality causing more loss than in the manufacture of any other kind of cheese. Three Swiss cheese cultures have been developed which are now extensively used in the industry to improve quality. A method of clarifying milk for the manufacture of Swiss cheese developed in the laboratories is now universally used throughout the industry to improve the quality of the product. The manufacture of cheese from pasteurized milk present difficulties in developing texture and flavor. These problems are being studied with a view to making pasteurization universal. A more recent development is in the packaging of Cheddar cheese. The manufacture of American Cheddar cheese, 360,000,000 pounds of which are produced annually, is handicapped by the unattractive and inconvenient method of marketing. A method developed in the laboratories in the first successful attempt to provide a satisfactory method of packaging without detriment either to the flavor or texture. It eliminates loss from evaporation of water, inedible rind, and mechanical waste in cutting.

Market-Milk Investigations.

Under this project investigational work is conducted in sanitary and economical methods of producing, transporting, processing, and distributing market milk and cream which is to be utilized in its fluid state, including investigations of the production and farm handling of market milk under experimental as well as practical conditions on dairy farms, and a study of community milk improvement through milk control and extension agencies on the area plan; investigations of the construction, equipment, and economical operation of milk plants for the processing and preparation for the market of fluid milk and cream; and investigations in the laboratory and at commercial dairy farms and plants to ascertain factors affecting the marketability of milk and cream.

The purposes of these investigations are to prevent losses due to souring, spoilage, and other causes, and to increase the market value of milk; to increase consumption of milk; to make rural and urban milk supplies more safe; to effect economies in initial investments and operating costs of milk plants so as to reduce the spread between producers' and consumers' prices through greater efficiency in plant operation; to discover undesirable practices which impair the market qualities of milk and cream, and to devise remedial measures.

Emergency Funds Applicable Under
This Heading

Allotments under the National Industrial Recovery Act aggregating \$262,420 (\$173,670 prior to November 1, 1933 and \$88,750 subsequent to that date) have been made for physical improvements at Dairy experiment stations for the construction of dairy buildings and laboratories; repairs to buildings, extension of water, sewer and electric systems, procurement and installation of equipment and apparatus, and clearing, draining and fencing land, as follows:

Maryland, Beltsville	\$ 247,050
Montana, Huntley	500
North Dakota, Mandan	4,450
Oklahoma, Woodward	2,270
Tennessee, Lewisburg	8,150
	<u>262,420</u>

Allotments under the Federal Civil Works Administration aggregating \$105,990 have been made for land, road and equipment improvement at the dairy experiment stations, and for overhead expenses in the District of Columbia as follows:

Louisiana, Jeanerette	\$ 3,750
Maryland, Beltsville	80,600
Montana, Huntley	6,030
North Dakota, Mandan	2,795
Oklahoma, Woodward	1,200
Tennessee, Lewisburg	9,565
District of Columbia	2,000
	<u>105,990</u>

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(a) General Administrative

Appropriation, 1932	\$ 210,266
Appropriation, 1933	209,966
Appropriation, 1934	193,639

<u>Estimated Obligations, 1934</u>	<u>167,522</u>
<u>Budget Estimate, 1935</u>	<u>171,569</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>4,047</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary	Working
				Restoration	Funds
<u>Obligated:</u>					
General Administration	\$184,797	\$167,522	\$171,569	+9,215	-\$5,168(2)
<u>Unobligated:</u>					
Salary reduction	20,533	10,381	---	---	---
Working Funds reduction	4,636	15,736	---	---	---
Total Appropriation	209,966	193,639	171,569	-22,070(1)	

(1) This reduction of \$22,070 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$10,381
Curtailments in 1934 working funds	- 15,736
Further reduction in working funds for 1935 (\$5,168 for reduction in personnel)	- 5,168
5% salary restoration	+ 9,215
	<u>-22,070</u>

(2) This decrease of \$5,168 is made on account of the transfer of the items for Barberry Eradication, Blister-rust Control, Citrus-canker Eradication, and Phony-peach Eradication to the Bureau of Entomology and Plant Quarantine, making possible the reduction of administrative overhead expenses.

Work Done Under this Appropriation

The direction of the research, service and regulatory work of the Bureau of Plant Industry, including the projects supported largely by National Recovery Act funds, the administration of the fiscal affairs, the general supervision of personnel, the administrative review and preparation of its research and other publications and bibliographical and related library work, as well as the partial financing of such service activities as the photographic laboratory, are carried on under this appropriation.

Appropriation, 1932	\$60,600
Appropriation, 1933	60,500
<u>Appropriation, 1934</u>	<u>51,545</u>

<u>Estimated Obligations, 1934</u>	<u>41,796</u>
<u>Budget Estimate, 1935</u>	<u>44,469</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>2,673</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary : Working Restoration: Funds
<u>Obligated:</u>				
Arlington Farm	\$51,221	\$41,796	\$44,469	+ \$2,673 : ---
<u>Unobligated:</u>				
Salary reduction	8,099	3,564	---	--- : ---
Working funds reduction	1,180	6,185	---	--- : ---
<u>Total Appropriation</u>	<u>60,500</u>	<u>51,545</u>	<u>44,469</u>	<u>-7,076 (1)</u>

(1) This reduction of \$7,076 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$3,564
Curtailments in 1934 working funds	-6,185
5% salary restoration	<u>+2,673</u>
	<u>-7,076</u>

Work Done Under this Appropriation

A highly improved 400-acre tract is maintained in Virginia, near Washington, D. C., provided with laboratories, greenhouses, barns, shops, and other buildings, furnishing facilities for conducting experiments and practical farm tests covering a wide range of research work, national in scope, principally for the Bureau of Plant Industry, but also for Bureaus of Chemistry and Soils, Public Roads, Entomology, Agricultural Engineering and other branches. By furnishing similar facilities common to the many activities from a central station duplication of effort and equipment is avoided and the cost of operation appreciably reduced.

Emergency Funds Applicable
Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Re-surface station roads - \$2,500

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

(c) Barberry Eradication

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Note: This item has been transferred to the Bureau of Entomology and Plant Quarantine.

(d) Blister Rust Control

Note: This item has been transferred to the Bureau of Entomology and Plant Quarantine.

(e) Botany

Appropriation, 1932	\$56,260
Appropriation, 1933	42,060
Appropriation, 1934	39,113

Estimated Obligations, 1934	32,048
Budget Estimated, 1935	33,816

Increase, Budget 1935, compared with Estimated Obligations, 1934	1,768
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
				5% Salary	Working
		(Estimated)	(Estimated)	Restoration	Funds
<u>Obligated:</u>					
Botany	\$36,252	\$32,048	\$33,816	+	\$1,768

<u>Unobligated:</u>					
Salary reduction	3,757	2,371	---	---	---
Working funds reduction	2,051	4,694	---	---	---
Total Appropriation	\$42,060	\$39,113	\$33,816	-	5,297 (1)

(1) This reduction of \$5,297 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$2,371
Curtailments in 1934 working funds	- 4,694
5% salary restoration	+ 1,768
	<u>- 5,297</u>

Work Done Under this Appropriation

Work under this appropriation consists of identification of cultivated plants, as well as wild plants, investigations of troublesome weeds through field studies, and the domestication and improvement of the blueberry.

(f) Citrus Canker Eradication

Note: This item has been transferred to the Bureau of Entomology and Plant Quarantine.

Appropriation, 1932	\$ 574,060
Appropriation, 1933	546,985 (a)
Appropriation, 1934	488,200

Estimated Obligations, 1934	410,960
Budget Estimate, 1935	411,803

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>843</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary : Working Restoration: Funds		
<u>Obligated:</u>						
Barley Production and Improvement	\$54,750	\$46,575	\$47,295	+	1,572	- 852(2)
Corn Production and Improvement	116,555	103,810	100,418	+	5,745	- 9,137(3)
Seed Flax Production and Improvement (also Buckwheat)	18,080	13,990	11,980	+	673	- 2,683(4)
Grain Sorghum and Broomcorn (also proso, millets, etc.)	20,990	17,860	18,975	+	1,295	- 180(5)
Oat Production and Improvement	47,382	37,520	38,327	+	1,501	- 694(6)
Rice Production and Improvement	41,805	35,845	37,468	+	2,055	- 432(7)
Wheat Production and Improvement (also emmer, spelt, etc. and rye)	196,695	155,760	157,340	+	6,260	- 4,280(8)
Total	496,257	410,960	411,803	+	19,101	-18,258
<u>Unobligated:</u>						
Salary reduction	43,658	20,656	---	---	---	---
Working Funds reduction	7,070	56,584	---	---	---	---
	(a)					
Total Appropriation	546,985	488,200	411,803		- 76,397	(1)

(1) This reduction of \$76,397 below the appropriation for 1934 consists of:

Impoundment of 5-2/3% of 15% pay cut - \$ 20,656

Curtailments in 1934 working funds - 56,584

Further reduction in working funds for 1935

(See following page) - 18,253

5% salary restoration + 19,101

- 76,397

(a) Excludes \$7,500 of \$554,485 in regular appropriation for 1933 which was transferred to Fruit and Vegetable Crops and Diseases.

The reduction of \$18,258 in working funds for 1935 includes:

(2) A decrease of \$352 on barley production and improvement. This decrease contemplates a reduction in amounts expended for supplies and equipment, travel, and labor in the field. One-third of the salary of a junior pathologist will be eliminated.

(3) A decrease of \$9,137 on corn production and improvement. This decrease contemplates the discontinuance of work previously conducted on Corn Borer Investigations and also on Investigations with Sweetcorn. Further reductions in amounts expended for supplies, equipment, travel, and labor in the field on the regular corn work are contemplated. The salary of one assistant pathologist will be eliminated.

(4) A decrease of \$2,683 on seedflax production and improvement (also buckwheat). This decrease contemplates a reduction in amounts previously expended for supplies, equipment, travel, labor and the salary of one assistant agronomist in the field.

(5) A decrease of \$180 on grain sorghum and broomcorn production and improvement (also proso, millets, etc.) This decrease contemplates a reduction in amounts expendable for supplies, equipment, travel, and labor in the field.

(6) A decrease of \$694 on oat production and improvement. This decrease contemplates a reduction in amounts expendable for supplies, equipment, travel, and labor in the field.

(7) A decrease of \$432 on rice production and improvement. This decrease contemplates a reduction in amounts expendable for supplies, equipment, travel, and labor in the field.

(8) A decrease of \$4,230 on wheat production and improvement (also emmer, spelt, etc.). This decrease contemplates the discontinuance of two-thirds of the salary of a junior pathologist and of the salary of an agent; also a reduction in expenditures for supplies, equipment, travel, and labor in the field.

Work Done Under this Appropriation

The work under this appropriation includes studies of cultural practices with cereal crops and investigation of their possible improvement, comparison of yield and adaptability of different varieties to different regions and their quality for different uses, together with the breeding and selection of improved and better-adapted varieties, and the development of methods of control of the diseases of all cereal crops, including the breeding of disease-resistant varieties. Cooperative experiments are carried on at most of the State Agricultural Experiment Stations but no independent field stations are maintained.

Barley production and improvement.--Under this project cooperative experiments are carried on at most of the State agricultural experiment stations in States where barley is important, in testing the yield and adaptation of barley varieties; in breeding new varieties more resistant to drought, diseases, and insect pests, and of better quality for feeding, malting, and other purposes; in determining the culture and fertilizer requirements of barley; and in controlling the diseases of barley, including studies of disease resistance and breeding disease-resistant varieties.

Corn production and improvement.--Under this project cooperative experiments are conducted in cooperation with the State agricultural experiment stations in the more important corn-producing areas, in the study of methods of corn breeding; in the development of new strains of corn superior in yield and quality and resistant to drought, cold, diseases, and insect pests; in determining the cultural and fertilizer requirements of corn; and in developing methods for the control of corn diseases including the breeding of disease-resistant strains.

Seed flax production and improvement (also buckwheat).--Under this project cooperative experiments are conducted with the State agricultural experiment stations in the north-central seed-flax area, in developing new varieties of flax superior in yield, oil content, and oil quality, and resistant to heat, drought, insect pests, and diseases, particularly flax wilt; and in determining cultural and fertilizer requirements of flax, etc. This crop is now produced in quantity less than domestic requirements, thus offering a safe outlet for increased production. Because of the effect of flax diseases, particularly wilt, on production, it would be impossible to grow this crop without resistant varieties.

Grain sorghum and broomcorn (also proso, millets, etc.).--Under this project cooperative experiments are carried on in Kansas, Oklahoma, Texas, and Arizona, in developing new varieties of grain sorghum and broomcorn superior in yield and quality, resistant to diseases and insect pests, and better adapted to growing and harvesting with machinery used for other grain crops, particularly in the areas where the grain sorghums are adapted, to insure satisfactory substitute crops in a large part of the winter wheat area where the latter crop must be reduced in acreage.

Oat production and improvement.--Under this project cooperative experiments are carried on with State agricultural experiment stations in various parts of the United States, in developing new varieties superior in yield and quality, and resistant to drought, cold, diseases, and insect pests; in determination of cultural and fertilizer requirements; and in developing methods for the control of oat diseases, including the discovery of disease-resistant strains and the breeding of adapted disease-resistant varieties.

Rice production and improvement.--Under this project cooperative experiments are conducted with the State agricultural experiment stations in Arkansas, Louisiana, Texas, and California in developing new varieties of rice of superior yield and quality, and resistant to diseases and insect pests; in determining cultural, irrigation, and fertilizer requirements of rice; in developing methods of controlling rice diseases, including the discovery of disease-resistant strains and the breeding of adapted disease-resistant varieties; and in devising methods for handling and processing rice in order to improve quality and to use American-grown rice for special purposes for which foreign rice is now imported.

Wheat production and improvement (also emmer, spelt, etc., and rye).--Under this project cooperative experiments are carried on at State agricultural experiment stations in all of the principal wheat-producing areas, in developing new varieties of wheat superior in yield and quality for various uses, and resistant to drought, cold, diseases, and insect pests; in determining cultural and fertilizer requirements of wheat; and in developing methods for the control of wheat diseases, including the discovery of strains resistant to these diseases, and the breeding of adapted varieties resistant thereto. Tests of the milling and baking value of wheat varieties are cooperative with the Bureau of Agricultural Economics.

(h) Cotton Production and Diseases

Appropriation, 1932	\$233,140
Appropriation, 1933	218,440
<u>Appropriation, 1934</u>	<u>200,000</u>

<u>Estimated Obligations, 1934</u>	<u>165,233</u>
<u>Budget Estimate, 1935</u>	<u>173,092</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>7,859</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
				5% Salary	Working
		(Estimated)	(Estimated)	Restoration	Funds
<u>Obligated:</u>					
Breeding and cultural im-					
provement of cotton, in-					
cluding cotton diseases..	\$176,988	\$146,261	\$152,687	+ 6,426	---
Egyptian Cotton Breeding	21,825	18,972	20,405	+ 1,433	---
Total.....	198,813	165,233	173,092	+ 7,859	---
<u>Unobligated:</u>					
Salary reduction	17,500	10,767	---	---	---
Working funds reduction..	2,127	24,000	---	---	---
Total Appropriation.....	218,440	200,000	173,092	-26,908 (1)	

(1) This reduction of \$26,908 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$10,767
Curtailments in 1934 working funds	- 24,000
5% salary restoration	+ 7,859
	<u>- 26,908</u>

Work Done Under this Appropriation

The work under this appropriation consists chiefly of research toward acclimatization of tropical varieties of cotton, breeding of superior varieties of cotton, improved cultural practices, and investigation and control of diseases. In addition to cooperative experiments at State Agricultural experiment stations, field stations are maintained in cooperation with county, city and other agencies at the following points:

Sacaton, Arizona
 Bard, California
 San Diego, California
 Shafter, California

James Island, South Carolina
 Wadmalaw Island, South Carolina
 Greenville, Texas
 San Antonio, Texas

Breeding and cultural improvement of cotton, including cotton diseases.--

Work under this project consists of the acclimatization and adaptation in the Southern and Southwestern United States of cotton introduced from tropical regions, the breeding of superior varieties of cotton including the Sea Island cotton, the improvement in methods of cotton culture under boll-weevil conditions, the development of one-variety communities, and the establishment of community supplies of pure seed. Superior types of cotton have been discovered in Mexico and Central America which are now being grown extensively in the United States, and improved cultural methods are being more generally applied. The system of community production of one variety is being established through cooperation with state and local agencies in all of the cotton-growing States. The studies of diseases are designed to develop methods of control of wilt, root rot and other disorders seriously affecting the profitable production of cotton. A special investigation of cotton root-rot is being carried on in cooperation with the Bureau of Chemistry and Soils and with the State Experiment Station of Texas. Notable progress has been made in determining the habits of the fungus, which cause many millions of dollars damage to the cotton crop every year. (Bureau of Agricultural Economics, American Cotton Cooperative Association, and Bureau of Indian Affairs cooperating).:

Egyptian cotton breeding.--Work on this project includes the selection and hybridization of strains of Egyptian cotton through the ordinary methods of plant breeding, testing promising strains on a field basis, and the making available to farmers of the variety which yields best and which produces fiber giving best results in spinning tests, in the areas now growing Pima and other new long-staple cottons. (Bureau of Agricultural Economics cooperating).

Emergency Funds Applicable
Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Plant shelters and irrigation equipment, repairs on farm buildings, sheds, station equipment and grading roads - \$12,300

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

(i) Drug and Related Plants

Appropriation, 1932 \$ 58,120
 Appropriation, 1933 42,720 (a)
Appropriation, 1934 39,840

Estimated Obligations, 1934 32,395
Budget Estimate, 1935 34,101

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 1,706

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Drug, Poisonous and Oil Plants.....	\$ 28,506	\$ 24,463	\$ 26,006	+ \$ 1,543	- - -
Downy Mildew of Hops ..	9,109	7,932	8,095	+ 163	- - -
Total	37,615	32,395	34,101	+ 1,706	- - -
<u>Unobligated:</u>					
Salary reduction	4,203	2,664	- - -	- - -	- - -
Working funds reduction	902	4,781	- - -	- - -	- - -
	(a)				
Total Appropriation.....	42,720	39,840	34,101	-5,739(1)	

(1) This reduction of \$5,739 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$2,664
 Curtailments in 1934 working funds - 4,781
 5% salary restoration..... + 1,706
- 5,739

(a) Includes \$37,720 in regular appropriation for 1933 and \$5,000 transferred from Forage Crops and Diseases for downy mildew of hops.

Work Done Under this Appropriation

Scientific studies are made on the growing of drug, essential oil, oil-seed and related crops, and on the distribution and economic importance of plants poisonous to livestock. Cooperative experiments are located at the Oregon Agricultural Experiment Station.

Drug, poisonous and oil plants.--Work under this project consists of investigations of the growing of plants yielding drugs, insecticides, essential oils, drying oils and related products for the purpose of their introduction as farm crops, and of the preparation and marketing of commercial products from such plants; also investigations of the important constituents of medicinal and poisonous plants with respect to their economic significance. This work is of wide application, and that part of the project relating to medicinal and essential oil plants is the subject of thousands of requests received in the Department annually for special information not readily available to the public from other sources.

Downy mildew of hops.-- Under this project an investigation is in progress on the downy mildew of hops which during the past three or four years has caused material damage in the hop yards of the Pacific Northwest. Experimental spraying of infested fields under varying conditions and dusting of the crowns is well under way to develop eradication and control measures and to reduce losses to growers. A small experimental hop yard has been established in which by cross-breeding efforts are being made to produce mildew-resistant varieties.

(j) Dry Land Agriculture

Appropriation, 1932 \$265,740
 Appropriation, 1933 242,260
Appropriation, 1934 220,000

Estimated Obligations, 1934 183,496
Budget Estimate, 1935 --

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934. . . . 183,496

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Dry Land Crop Productions	\$162,669	\$ 137,940	- - -	- - -	-\$137,940(2)
Dry Land Fruit and Vegetable Production.....	30,365	26,375	- - -	- - -	26,375(3)
Cooperative shelterbelt demonstrations and experimental test plantings	23,859	19,181	- - -	- - -	19,181(4)
Total.....	216,893	183,496	- - -	- - -	183,496
<u>Unobligated:</u>					
Salary reduction.....	19,584	10,104	- - -	- - -	- - -
Working funds reduction	5,783	26,400	- - -	- - -	- - -
Total Appropriation.....	242,260	220,000	- - -	-230,000	(1)

(1) No estimate is submitted for 1935. The reduction of \$220,000 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... -\$ 10,104
 Curtailments in 1934 working funds - 26,400
 Further reduction in working funds for 1935
 (\$137,940 for dry-land crop production, \$26,375
 for dry-land fruit and vegetable production,
 and \$19,181 for cooperative shelter-belt
 demonstrations and experimental test plantings) - 183,496

- 220,000

The reduction of \$183,496 in working funds for 1935 includes:

(2) A decrease of \$137,940 for dry land crop production. This decrease is the entire amount of the appropriation. Under this decrease work and field stations will be discontinued at the following points: Akron, Colorado; Tucumcari, New Mexico; Mandan, North Dakota; Lawton, Oklahoma; Woodward, Oklahoma; Big Spring, Texas; Dalhart, Texas; and Sheridan, Wyoming. Cooperative work in dry land methods of crop production will also be discontinued at the Federal Experiment Stations maintained at Huntley, Montana, and Newell, South Dakota. The investigations in methods of dry-land crop production conducted in cooperation with State Experiment Stations at Pendleton, Oregon; Havre, Montana; Moccasin, Montana; Dickinson, North Dakota; Archer, Wyoming; North Platte, Nebraska; Colby, Kansas; Hays, Kansas; and Garden City, Kansas, also will be discontinued.

(3) A decrease of \$26,375 for dry-land fruit and vegetable production. This decrease is the entire amount of the appropriation. Under this decrease all work in breeding and testing fruits and vegetables for dry-land conditions and determining the methods of growing them on the field stations at Mandan, North Dakota, and Woodward, Oklahoma, and varietal tests and methods of production at Huntley, Montana; Sheridan, Wyoming; Akron, Colorado; Tucumcari, New Mexico; Dalhart and Big Spring, Texas; and Lawton, Oklahoma, will be discontinued.

(4) A decrease of \$19,181 for cooperative shelter belt demonstrations and experimental plantings. This decrease is the entire amount of the appropriation. Under this decrease it will be necessary to discontinue work and the experimental plantings of shelter belts and shelter-belt materials and the nurseries for the growth of shelter-belt trees at the field stations at Mandan, North Dakota; and Woodward, Oklahoma. Shelter-belt experiments will also be discontinued at the field stations at Sheridan, Wyoming; Akron, Colorado; Tucumcari, New Mexico; Dalhart and Big Spring, Texas; and Lawton, Oklahoma. Tests of shelter belts in cooperation with State Experiment Stations at the following points will also be discontinued: Havre, Montana; Moccasin, Montana; and Archer, Wyoming. It will also be necessary to terminate cooperation with farmers in the States of Montana, Wyoming, North Dakota, South Dakota, Kansas, New Mexico, Oklahoma, and Texas who are testing shelter belt and ornamental and fruit tree plantings under the direction of the Department.

Work Done Under this Appropriation

Under this appropriation the problems of agricultural and horticultural development of the Great Plains and Intermountain areas, a region classed as semi-arid, are studied at field stations to obtain the fullest possible information concerning soil and climatic conditions throughout the region and the agricultural effectiveness of each of the many different methods of tillage and crop rotations that can be considered as more or less suitable for this region where irrigation is not available.

Field stations are maintained at the following points:

Alron, Colorado	Woodward, Oklahoma
Tucumcari, New Mexico	Big Spring, Texas
Mandan, North Dakota	Dalhart, Texas
Lawton, Oklahoma	Sheridan, Wyoming

Investigations are conducted at stations maintained by the U. S. Division of Western Irrigation Agriculture, Bureau of Plant Industry, at the following points:

Huntley, Montana	Newell, South Dakota
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Investigations are conducted in cooperation with States at State stations at the following points:

Colby, Kansas	Hays, Kansas
Garden City, Kansas	Havre, Montana
Moccasin, Montana	North Platte, Nebraska
Dickinson, N. D.	Pendleton, Oregon
Archer, Wyoming	

Dry-Land Crop Production.--The work under this project consists of rotation and tillage experiments with cereal crops, forage crops and cotton, as well as pasture conservation and development in this region. (Bureau of Animal Industry cooperates with livestock experiments at the field station at Big Spring, Texas.) Crop rotation, cultural methods, and pasture practices are concerned not only with the immediate effects but with the cumulative effects in increasing, maintaining or decreasing the productivity of the soil.

Dry-Land Fruit and Vegetable Production.--The work under this project consists of demonstrations of the feasibility of growing in this semi-arid region certain fruits and vegetables which can be produced on a home-garden scale.

Cooperative Shelter-Belt Demonstrations and Experimental Test Plantings.--Under this project trees and ornamental plants that can be grown in dry regions are propagated and placed with experimenters for testing and demonstrations of trees planted as shelter belts are developed and encouraged. The dry lands naturally are treeless regions, but gratifying success has attended systematic effort to determine the kinds of trees and methods of care and culture necessary in their successful growth for shade and shelter.

Emergency Funds Applicable Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Repairs on buildings and fences, painting buildings, clearing land, repairing roads, digging wells, and constructing machine shed to house Government machinery - \$30,700

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

(k) Experimental Greenhouse Maintenance

Appropriation, 1932	\$ 98,120
Appropriation, 1933	97,820
Appropriation, 1934	87,190

Estimated Obligations, 1934	67,417 (a)
Budget Estimate, 1935	<u>71,239</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>3,822</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
For maintenance and operation of experimental greenhouses and adjacent land	\$ 84,632	\$ 67,417	\$ 71,239	+\$ 3,822	- - -
<u>Unobligated:</u>					
Salary reduction	13,001	5,386	- - -	- - -	- - -
Working funds reduction ..	187	10,463	- - -	- - -	- - -
Total Appropriation	97,820	83,266(a)	71,239	- 12,027(1)	

(1) This reduction of \$12,027 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$ 5,386
Curtailments in 1934 working funds	- 10,463
5% salary restoration	+ 3,822
	<u>- 12,027</u>

(a) Exclusive of \$3,924 transferred to the Department of the Interior in connection with the transfer of buildings and grounds south of the North Drive on the Mall to jurisdiction of that Department.

Change in Language

The change of side title from "Gardens and Grounds" to "Experimental Greenhouse Maintenance" is made in order to more correctly describe this activity as now constituted.

Work Done Under this Appropriation

A range of thirty-two greenhouses supplemented by a small adjacent outdoor area is maintained, providing for experimental work with a wide range of plants. The greenhouses are operated to furnish necessary experimental facilities to the several appropriation items, particularly those dealing with the diseases of plants caused by bacteria, fungi, or nemas. Maintenance of experimental plants for hybridization or other plant breeding or plant physiological studies are also provided for.

Emergency Funds Applicable
Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Repaint one range of greenhouses - \$500.

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

(1) Forage Crops and Diseases

Appropriation, 1932 \$279,375
 Appropriation, 1933 257,005 (a)
Appropriation, 1934 201,014

Estimated Obligations, 1934 165,627
Budget Estimate, 1935 174,596

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 8,909

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Alfalfa Investigations.....	\$ 63,881	\$51,977	\$ 54,058	+ \$ 2,081	- - -
Clover Investigations.....	28,851	20,616	20,990	+ 374	- - -
Soybean, Cowpea, and Velvet Bean Investigations.....	25,262	16,455	17,542	+ 1,087	- - -
Sorghum Investigations.....	7,969	6,278	6,946	+ 668	- - -
Winter Legumes and Green Manuring	36,119	31,137	33,714	+ 2,557	- - -
Grass, Pastures and Fine Turf	70,863	39,224	41,346	+ 2,122	- - -
Total	232,945	165,687	174,596	+ 8,909	- - -
<u>Unobligated:</u>					
Salary reduction.....	20,197	11,205	- - -	- - -	- - -
Working funds reduction...	3,863	24,122	- - -	- - -	- - -
Total Appropriation.....	257,005 (a)	201,014	174,596	- 26,418 (1)	

(1) This reduction of \$26,418 below the appropriation for 1934 consists of:

Impoundment of 6-2/3 of 13% pay cut..... - \$11,205
 Curtailments in 1934 working funds - 24,122
 5% salary restoration + 8,909
 - 26,418

(a) Excludes \$5,000 of \$262,005 in regular appropriation for 1933 which was transferred to Drug and Related Plants.

Work Done Under this Appropriation

Under this appropriation the work consists chiefly of field studies throughout the United States pertaining to the production, improvement and control of diseases of all crop plants used for forage, either as hay, fodder, silage, or pasture, and incidentally of all plants used for green manuring, turf production, soil erosion prevention and soil binding, in cooperation with the State agricultural experiment stations. One independent field station is maintained.

Alfalfa Investigations.--This appropriation is used for three purposes.

- (1) A study of varietal adaptation with a view to preventing losses due to the use of unadapted seed. (2) A study of cultural and fertilizing methods designed to increase yields and to prolong the life of the stand. (3) Study of diseases of alfalfa and breeding of varieties resistant to disease.

Previous studies have shown that the only way to combat such a disease as bacterial wilt of alfalfa is to breed a resistant variety. This disease is known to be present in every State in which alfalfa is an important crop but is most destructive in the Plains States, Colorado, Utah and California. It is a menace to the entire alfalfa industry in those States.

Cooperation on varietal studies is maintained with 26 State stations; on cultural work with 8 stations and on disease studies and breeding with 4 State stations. One station not in cooperation with a State station is maintained.

Clover Investigations.--This appropriation is used for four purposes.

- (1) A study and introduction of new and improved varieties of red and sweet clover and the introduction of new species of clovers to meet special needs. (2) Improvement in cultural practices especially for red and sweet clover. (3) Development of greater seed production of red clover especially in the mountain valleys of Colorado, Wyoming, Montana and Idaho. (4) A study of the diseases of red and sweet clover and the breeding and dissemination of disease resistant varieties.

Cooperation is maintained with 15 State experiment stations, especially with the States of Massachusetts, Ohio, North Carolina, Kentucky, Wisconsin, Iowa, Kansas, Texas, Colorado, Oregon and Idaho.

Soybean, Cowpea and Velvet Bean Investigations.--This appropriation is used almost wholly for soybean studies, the work with cowpeas and velvet beans having been largely laid aside because of reduced funds. This appropriation is used for six purposes. (1) Testing and introduction of new and improved varieties adapted to various sections of the United States for hay or oil production. (2) Comparative study of oil and protein content of soybeans as a basis for selection of varieties more useful to the soybean oil industry. (3) A study of the effect of soil and climate on the oil content of soybeans. (4) A study of the ease with which soybean oil may be expressed from different varieties. (5) A study of improved cowpea varieties. (6) Production and establishment of a bush velvet bean. At present only minor funds are expended on 5 and 6.

Cooperation in variety testing is maintained to a greater or less degree with nearly every State station but the funds are expended mainly in cooperation with 8 stations. The most important work is done in Virginia, North Carolina, South Carolina, Georgia, Ohio and Iowa.

Sorghum Investigations:--This appropriation is used for four purposes. (1) A study of varieties of forage sorghums. (2) Breeding and introduction of improved varieties. (3) Cultural studies. (4) Studies on the genetics of sorghum breeding.

Cooperation is maintained chiefly with two stations, Kansas and Nebraska, though minor cooperation is maintained with four other State experiment stations.

Winter Legumes and Green Manuring:--This appropriation is used for five purposes. (1) A study of winter legumes suitable for use as forage or soil improvement or for the prevention of soil erosion. (2) A study of the effect of growing legumes on the subsequent yields of cotton and corn. (3) A study of Crotalaria as a forage and soil improving crop for sandy soils. (4) The introduction of valuable varieties and species of lespedeza and of other legumes adapted to growing on acid soils. (5) Cultural and utilization studies with lespedezas.

Cooperation is maintained with 12 State experiment stations, but more especially with Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida and Missouri.

Grass, Pasture and Fine Turf:--This appropriation is used for six purposes. (1) Testing and introducing new and valuable grasses, especially in the South. (2) Studies on breeding of improved varieties of grasses for especial needs or regions. (3) Studies on the laying down and maintenance of pasture. (4) Studies on the economic utilization of pastures. (5) The use of grasses for the prevention of soil erosion. (6) The development, culture and diseases of fine turf grasses.

Cooperation is maintained with 15 State stations, though experimental quantities of seeds and plants are sent to many others. The most important work is done in the States of Vermont, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Mississippi, Louisiana, Texas, West Virginia, Ohio and Michigan.

(m) Foreign Plant Introduction

Appropriation, 1932 \$ 228,140
 Appropriation, 1933 175,000
Appropriation, 1934 163,574

Estimated Obligations, 1934 136,822
Budget Estimate, 1935 143,297

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 6,475

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Foreign Plant Introduction	\$157,597	\$136,822	\$143,297	+ \$6,475	- - -
<u>Unobligated:</u>					
Salary reduction.....	15,407	7,123	- - -	- - -	- - -
Working funds reduction ..	1,996	19,629	- - -	- - -	- - -
Total Appropriation.....	175,000	163,574	143,297	-20,277(1)	

(1) This reduction of \$20,277 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 7,123
 Curtailments in 1934 working funds. - 19,629
 5% salary restoration + 6,475
 - 20,277

Work Done Under this Appropriation

The work under this appropriation serves as a cooperative and coordinating agency for securing from all parts of the world new, rare and promising types of plants that may be useful in the development of new crop industries through encouraging diversification, aiding plant breeders, especially in the development of disease and insect-resistant crops, and meeting changes in shifting economic needs. To safeguard newly introduced plant material from dangerous new foreign crop pests, all such material is subject to rigid inspection and quarantine procedure on arrival and again before being released to crop specialists and experimenters. Cooperation is carried on with crop specialists in the United States Department of Agriculture, state agricultural colleges and experiment stations, botanic gardens, arboreta, nurserymen, and with selected lists of private, specially qualified individuals. The Division maintains four field stations, located at widely separated points, to aid in these cooperative tests. Studies are made of potential crop plants, soils and climates of foreign countries and soils and climates of this country with a view to locating foreign

sources of valuable crops and to insure that plantings of such crops, if introduced, are provided with soil and climatic conditions suited to their needs. Field stations are maintained at Chico, California; Cocanut Grove, Florida; Savannah, Georgia; and Glenn Dale, Maryland.

Emergency Funds Applicable
Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Repairs on farm buildings, painting farm buildings, building fences, constructing small office and latch screen and quarantine greenhouse, overhauling heating system - \$30,350

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

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(n) Forest Pathology

Appropriation, 1932 \$ 236,904 (a)
 Appropriation, 1933 234,936 (b)
Appropriation, 1934 217,837 (c)

Estimated Obligations, 1934 179,543 (d)
Budget Estimate, 1935 166,534

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 13,009

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Tree Disease Emergencies	\$ 28,470	\$ 20,865	- - -	- - -	-\$19,741(2)
Diseases of Shade Trees, Shrubs and Chestnut Orchards.....	60,482	50,000	\$ 48,934	+ \$2,032	- - -
Diseases of Forest Trees and Forest Products....	126,422	108,678	117,600	+ 4,700	- - -
Total	215,374	179,543	166,534	+ 6,732	-19,741
<u>Unobligated:</u>					
Salary reduction.....	16,034	13,459	- - -	- - -	- - -
Working funds reduction.	3,528	24,835	- - -	- - -	- - -
Total Appropriation.....	234,936 ^(b)	217,837(c)	166,534	- 51,303(1)	

(1) This reduction of \$51,303 below the appropriation for 1934 consists of

Impoundment of 6-2/3% of 15% pay cut- \$13,459

Curtailment in 1934 working funds- 24,835

Further reduction in working funds for 1935

(\$19,741 for discontinuance of project "Tree

Disease Emergencies") - 19,741

5% salary restoration.....+ 6,732

- 51,303

(a) Includes \$223,572 in regular appropriation for 1932 and \$13,332 supplemental appropriation for 1932 carried in Second Deficiency Act, 1931-1932 for Dutch Elm Disease.

(b) Includes \$220,476 in regular appropriation for 1933 and \$17,500 transferred from Blister Rust Control, and excludes \$3,000 transferred to the Bureau of Entomology and Plant Quarantine.

(c) Includes \$206,955 in regular appropriation for 1934 and \$13,382 transferred from Blister Rust Control, and excludes \$3,000 transferred to the Bureau of Entomology and Plant Quarantine.

(d) Includes \$170,265 available for 1934 and \$12,273 transferred from Blister Rust Control, and excludes \$3,000 transferred to Bureau of Entomology and Plant Quarantine.

Work Done Under This Appropriation

Under this appropriation the diseases of forest and shade trees and shrubs, including white-pine blister rust, chestnut blight, heart-rot of Douglas fir, Douglas fir canker, European larch canker, Dutch elm disease, and many other diseases, are investigated with a view to determining methods of control.

No independent field stations are maintained but pathologists co-operating with the Forest Service, universities, and State forestry institutions are stationed at:

San Francisco, California	Wooster, Ohio
New Haven, Connecticut	Portland, Oregon
New Orleans, Louisiana	Philadelphia, Pennsylvania
Albuquerque, New Mexico	Madison, Wisconsin

Tree disease emergencies.---Work under this project consists of the investigation of the newly discovered Dutch elm disease in this country, a research and scouting program to determine occurrence of European larch canker and investigations leading to its control, and similar studies of Douglas Fir Cankers, Woodgate Rust, Cypress Canker, Willow Scab Beech disease, Western Yellow Pine Blight, Pine Canker, and Fir Needle Cast. Other diseases are studied when they first appear in the country, before they have become established.

Diseases of shade trees, shrubs, and chestnut orchards.---Work under this project consists of investigations leading to the control of the diseases of street, park, and shade trees and shrubs, as well as the diseases occurring in cultivated chestnut trees, including cooperation with the Department of the Interior in studying diseases of trees in the National Parks. The demand for information on the diseases of shade, street, and park trees is far greater than can be supplied and thousands of specimens are received each year for diagnosis. The disease and breeding investigations of chestnut are undertaken with a view to establishing a chestnut-orchard industry in this country with blight-resistant chestnuts. (Department of the Interior and Bureau of Entomology cooperating.)

Diseases of forest trees and forest products.-- Work under this project, carried on mainly at the Experiment Stations and Region Headquarters of the Forest Service consists of investigations of the native diseases attacking standing trees in the forest and forest nurseries as well as the fungous discolorations and decays of logs, lumber, etc., and is part of the program authorized by the McNary-McSweeney Act. Research on the long-introduced diseases chestnut blight and white-pine blister rust, is also included, forming a basis for the development of resistant forest chestnuts and for the local control of the rust. The management of government, State, and private forests on a profitable basis depends upon the prevention of loss from disease. Because of the long life of forest trees, study of these diseases must be continuous over a period of years. Prevention of fungous injury to forest products is of particular value to the consumer as well as to the producer. (Forest Service, Bureau of Chemistry and Soils, and Bureau of Entomology and Plant Quarantine cooperating.)

Appropriation, 1932 \$1,500,360
 Appropriation, 1933 1,222,500 (a)
 Appropriation, 1934 1,144,100

Estimated Obligations, 1934 950,508
 Budget Estimate, 1935 990,936

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 40,428

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary : Working Restoration : Funds	
<u>Obligated:</u>					
Deciduous Fruit Production					
Investigations.....	\$146,989	\$ 129,097	\$ 133,435	+ \$ 5,306	-\$ 968(2)
Nut Production Investi-					
gations.....	98,286	85,164	83,872	+ 1,342	-2,634(2)
Subtropical Fruit Produc-					
tion Investigations.....	22,212	16,995	17,620	+ 625	---
Plant Propagation, Nursery					
Management and Stock					
Storage.....	25,358	21,851	22,600	+ 961	- 212(2)
Crop Physiology.....	75,216	61,351	64,157	+ 2,806	---
Fruit Disease Investi-					
gations.....	157,300	135,190	147,072	+ 11,882	---
Vegetable Production,					
Standardization and Im-					
provement.....	103,330	91,348	94,226	+ 3,722	- 844(2)
Vegetable Disease Investi-					
gations.....	95,155	84,233	88,364	+ 4,131	---
Potato Investigations.....	44,103	39,586	41,053	+ 1,637	- 170(2)
Fruit & Vegetable Handling,					
Transportation and Storage					
Investigations.....	172,572	141,564	148,173	+ 6,609	---
Fruit and Vegetable Utili-					
zation Investigations.....	34,924	32,223	33,766	+ 1,543	---
Floriculture and Landscape					
Gardening.....	11,123	10,835	11,394	+ 499	---
Bulb Culture.....	24,119	21,312	21,815	+ 615	- 112(2)
Diseases of Ornamental					
Plants.....	24,121	19,893	21,029	+ 1,136	---
Cheyenne Horticultural					
Field Station.....	72,408	59,806	62,360	+ 2,554	---
Total.....	1,108,316	950,508	990,936	+ 45,368	-4,940(2)
<u>Unobligated:</u>					
Salary reduction.....	102,107	56,300	---	---	---
Working funds reduction....	12,077	137,292	---	---	---
	(c)				
Total Appropriation.....	1,222,500	1,144,100	990,936	- 153,164	(1)

(a) Includes \$1,200,000 in regular appropriation for 1933, \$15,000 carried in the Agricultural Bill for 1933, being the unexpended balance of amount provided for 1932 for the Mississippi Valley Pecan Station, and \$7,500 transferred from Cereal Crops and Diseases.

(1) This reduction of \$153,164 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$ 56,300
Curtailments in 1934 working funds	- 137,292
Further reduction in working funds for	
1935 (rents).	- 4,940
5% salary restoration	+ <u>45,368</u>
	- <u>153,164</u>

(2) The reduction of \$4,940, is due to a decrease in the amount which will be used for rent in view of the purchase of land at Beltsville, Md.

Work Done Under this Appropriation

Under this appropriation investigations are conducted to determine the best methods of culture, propagation, breeding, selection, disease control, and related activities as affecting the most profitable production of high quality orchard fruits, small fruits, nuts, vegetables, ornamentals, nursery stocks, and related plants. The inter-relation of various orchard practices and problems concerned with the nutrition and physiology of the various horticultural plants are studied. Investigations for determining the best methods of harvesting, packing, shipping, storing, and utilizing horticultural products are also conducted, including the physiological and related changes of perishables during marketing and storage. In addition to cooperative activities with the State agricultural experiment stations, Bureau of Indian Affairs of the Department of the Interior, and others, field stations and laboratories are maintained at the following points:

Spring Hill, Alabama	Shreveport, Louisiana
Chula Vista, California	Presque Isle, Maine
Fresno, California	Beltsville, Maryland
Indio, California	Bethesda, Maryland
Los Angeles, California	Meridian, Mississippi
Pomona, California	Springfield, Missouri
Riverside, California	Pemberton, New Jersey
Sacramento, California	New York City, New York
Greeley, Colorado	Chadbourn, North Carolina
Eustis, Florida	Charleston, South Carolina
Orlando, Florida	Hood River, Oregon
Albany, Georgia	Austin, Texas
Fort Valley, Georgia	Brownwood, Texas
Philema, Georgia	Bellingham, Washington
Chicago, Illinois	Seattle, Washington
Vincennes, Indiana	Wenatchee, Washington
Robson, Louisiana	Yakima, Washington
	Cheyenne, Wyoming

Deciduous Fruit Production Investigations.--- The relation of orchard management practices, such as pruning, fruit thinning, soil improvement crops, and fertilizers to regular production, yield and quality of apples, pears and peaches is under experimentation. The functioning of fruit trees under varying conditions of moisture supply, and effects of irrigation on fruit production both in the East and in the arid West are being investigated (in cooperation with the Bureau of Agricultural Engineering). By hybridization and selection, improved varieties of peaches, plums, apples, pears, and grapes are being developed in many sections of the country. Selections of bud variations of both deciduous and citrus fruit varieties are propagated and tested to develop improved strains or varieties. The best root stocks and cultural practices for grape production in the Southeast and in California are being determined. Extensive breeding and cultural investigations with berries in Oregon, North Carolina and Maryland are yielding new varieties well adapted to all parts of the United States.

Nut Production Investigations.--- This work includes experiments on orchard culture, pollination requirements, and breeding of almonds, filberts and walnuts in the Pacific coast States, and hickories, filberts, black walnuts and chestnuts in the central and northeastern States. Investigations in pecan production including pruning, soil improvement, and fertilizer requirements (in cooperation with the Bureau of Chemistry and Soils) and factors affecting set, filling and quality of pecan nuts, are under way in Georgia, Mississippi, Louisiana, Texas, and other southern States (in cooperation with the Bureau of Entomology).

Subtropical Fruit Production Investigations.--- Cultural studies are conducted to determine those methods of pruning, fertilization, soil management and other practices which will result in greater yields per plant of higher quality fruit. Citrus, figs, avocados and other subtropical fruits are included in these studies, which are conducted in the Southern border States. (Bureaus of Entomology and Chemistry and Soils cooperating).

Plant Propagation, Nursery Management and Stock Storage.--- This work consists of propagation of fruit and rose stocks by seed, grafting, layerage, and by cuttings; testing and selecting stocks for apples, peaches, plums, pears and cherries; comparison of rose stocks for outdoor hybrid teas, and greenhouse grafting of roses and certain other ornamentals; storage experiments with nursery stock to determine the most suitable moisture and temperature conditions.

Crop Physiology.--- These investigations relate particularly to dates, pistaches, new citrus hybrids and other new and noncompetitive crops. The purpose of this work is to determine various factors which govern the success or failure of horticultural plants under different soil and climatic conditions with special reference to the accurate determination of such factors in case of new and noncompetitive crops not now grown on a commercial scale in this country. Breeding work is carried on whenever necessary to adapt such new crops to the soil and climatic conditions they must endure in this country. Experiments with dates, pistaches and figs are under way in California, Arizona and Texas, and new hybrids such as the Tangelo (cross of tangerine with grapefruit) and new early ripening Satsuma oranges are under investigation in the Gulf Coast States. (Bureau of Indian Affairs of Department of the Interior cooperating).

Fruit Disease Investigations.-- Investigations are conducted on the fungous, bacterial, virus and physiological diseases of fruits and fruit trees, including citrus and subtropical fruits, grapes, and small fruits, fruit rots and decays, and diseases of the pecan and other nuts, with a view to their control by spraying disinfection, eradication, and other methods. These investigations help the grower in maintaining the life and health of his orchards, help him protect his annual fruit crops from diseases, stabilize production and improve the quality of fruit, ultimately to the benefit of the consumer as well as the producer. (Bureaus of Chemistry and Soils and Entomology cooperating).

Vegetable Production, Standardization and Improvement.-- These investigations include improvement in cultural practices for vegetables throughout the United States, improvement by selection and breeding of superior varieties, production on muck soils, and field tests for the purpose of establishing variety standards and variety descriptions.

Vegetable disease investigations.-- Investigations are conducted on the fungous, virus and bacterial diseases of vegetables to determine their cause, conditions under which they develop, localities where they are most serious, methods of disease transmission and to develop control measures. (Bureau of Entomology cooperating). There is urgent need for the control of vegetable diseases in order to improve the quality of the product and to reduce the farmers' cost of production.

Potato Investigations.-- Experimental work is carried on in different regions with a view to developing through breeding and selection more desirable commercial varieties of potatoes and to improve cultural and storage practices. The work is generally applicable but special experiments are under way in the following States: Maine, Virginia, Maryland, North Carolina, New York, Louisiana, Michigan, Iowa, Minnesota, North Dakota and Colorado. Very active and influential groups of potato growers from the different States have for several years been urging these activities. (Bureau of Home Economics and Bureau of Chemistry and Soils cooperating).

Fruit and Vegetable Handling, Transportation and Storage Investigations.-- These studies include experiments to determine the best methods of handling, transportation and storage of fruits and vegetables, including the control of diseases in storage, during transit and on the market; the effect of ethylene and other gases in coloring fruits and vegetables; methods of removing spray residues and investigations on the frozen pack method of preservation. The work is of general interest but more particularly for the regions of large production with extensive shipment. (Bureau of Agricultural Engineering, Bureau of Agricultural Economics, Bureau of Chemistry and Soils and Bureau of Entomology cooperating).

Fruit and Vegetable Utilization Investigations.-- These experiments include study of the fundamental factors involved in the preservation of food by canning, drying and freezing, the relation of varietal characters and stage of maturity to appearance, palatability and food value of the preserved material, the value of different varieties with respect to the quality of the final product, the study of the microbiological problems arising from frozen packing of berries and other fruits and vegetables. This work is guiding the develop-

ing frozen pack industry in its selection of raw material. (Bureau of Chemistry and Soils and Bureau of Home Economics informally cooperating).

Floriculture and Landscape Gardening.--- Studies of adaptability for planting in various regions are made of different varieties of herbaceous and woody ornamental plants, including annuals, perennials, roses and chrysanthemums, together with arrangements of plants and trees for ornamental effect, including their use on farmsteads and roadsides.

Bulb Culture.--- Experiments with tulips, hyacinths, narcissus and other bulbs are under way with a view to aiding the rapidly developing bulb-growing industry of the United States. The work is of general application but of especial interest in the Pacific Northwest, North Carolina, and Long Island, N. Y.

Diseases of Ornamental Plants.--- Investigations are conducted on the fungus, bacterial virus and physiological diseases of ornamental plants and floral crops to determine the best means of control. (Bureau of Entomology cooperating).

Cheyenne Horticultural Field Station.--- Experiments under both dryland and irrigated conditions are conducted with fruits, vegetables, flowers and shelter-belt plants. Fertilizer, pruning, soil management, thinning and pollination studies are conducted. Breeding investigations are conducted for the purpose of developing better varieties resistant to drought and cold. Extensive experiments in shelter-belt plantings are in progress.

Emergency Funds Applicable Under This Heading

An allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Repairs on buildings and fences, remodeling propagation equipment, reconditioning greenhouses and barn and other buildings, repairing laboratories, clearing land, constructing water lines and wells, erecting irrigation system, installing electric power, purchase of land now leased, building foreman's residence and repairing and altering roads - \$490,202.

This money was made available August 1, 1933, and will be expended during the fiscal year 1934 and during the early part of the fiscal year 1935 (July - October, 1934).

Appropriation, 1932	\$ 36,420
Appropriation, 1935	36,220
Appropriation, 1934	33,617

Estimated Obligations, 1934	27,281
Budget Estimate, 1935	28,753

Increase, Budget 1935, compared with Estimated Obligations, 1934.	<u>1,472</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Genetics and Biophysics	\$ 32,619	\$ 27,281	\$ 28,753	+ \$1,472	- - -
<u>Unobligated:</u>					
Salary reduction.....	3,117	2,302	- - -	- - -	- - -
Working funds reduction	484	4,034	- - -	- - -	- - -
Total Appropriation.....	36,220	33,617	28,753	- 4,864(1)	

(1) This reduction of \$4,864 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$2,302
Curtailments in 1934 working funds	4,034
5% salary restoration.	+ 1,472
	<u>- 4,864</u>

Work Done Under this Appropriation

Field and laboratory investigations are conducted with various plants to determine the principles and mechanics of inheritance. The experiments involve controlled hybridization between individuals of known ancestry and analysis of subsequent progeny for several generations; cytological studies of the transmission of the character carriers (chromosomes) from one generation to the next; the production of new characters by artificial methods such as x-rays. Heredity and environment are interdependent and investigations are in progress on the influence of physical conditions upon growth and reproduction with particular reference to the effect of electric currents on growing plants; alteration of soil atmosphere by means of various gases; the effect of permanent and temporary mulches on growth stimulation; the effect of x-rays on growth retardation. The results have demonstrated that heredity is an orderly process obeying definite laws. Knowledge of the principles underlying these orderly processes must be extended as they furnish the basis for intelligent plant breeding.

Studies of inheritance require populations of plants with a known and recorded ancestry of many generations. Such populations are built up by investing time--a year to a generation--and are maintained only by yearly plantings. Once such a population is lost no amount of money will shorten the time essential for its replacement.

Appropriation, 1932 \$ 59,960
 Appropriation, 1933 50,000
Appropriation, 1934 46,133

Estimated Obligations, 1934 37,322
Budget Estimate, 1935 39,342

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 2,020

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Mycology.....	\$ 16,856	\$ 14,496	\$ 14,741	+ \$ 245	- - -
Plant Disease Survey...	23,545	19,519	20,520	+ 1,001	- - -
Mushroom Investigations	4,570	3,307	4,081	+ 774	- - -
Total.....	44,971	37,322	39,342	+ 2,020	- - -
<u>Unobligated:</u>					
Salary reduction.....	4,782	3,275	- - -	- - -	- - -
Working funds reduction	247	5,536	- - -	- - -	- - -
Total Appropriation.....	50,000	46,133	39,342	- 6,791 (1)	

(1) This reduction of \$6,791 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....- \$3,275
 Curtailments in 1934 working funds.....- 5,536
 5% salary restoration.....+ 2,020

- 6,791

Work Done Under this Appropriation

The work under this appropriation includes the collection and study of plant parasites and other fungi, surveys of plant diseases in the United States, and investigations on the culture and diseases of mushrooms.

Mycology.-- Work under this project consists of maintenance of collections of specimens of plant parasites and other fungi having relation to injury or destruction of economic plants and plant products, their identification, and preservation for technical study and reference purposes. The herbarium maintained under this project serves as a repository for fungus material on which the pathological work of other divisions of the Bureau of Plant Industry has been based and the project functions as a service unit for the pathological workers of these divisions as well as those of the various State stations.

Plant Disease Survey.---Work under this project consists of surveys to determine the geographic distribution, prevalence, and rate of spread of plant diseases in the United States and losses caused by disease, as well as the appearance of new or dangerous diseases and epidemics or unusual outbreaks of disease. Files are maintained in which the information thus accumulated is always available and, in cooperation with the Mycology project, files for plant disease literature of the world are maintained. This project also collects current information on the status of plant diseases throughout the United States, and by means of a mimeographed periodical, distributes this information to pathologists in this country and abroad. All of the lines of work carried on under this project are of national or large regional scope. It is indeed the only organization in the country in which an attempt is made to study the significance of all plant diseases on a national basis. While it is impossible to cover satisfactorily so large a field with very limited funds, no problems of purely local interest are considered.

Mushroom Investigations.---Work under this project consists of investigations of the causes and control of mushroom diseases, particularly the truffle and Mycogone diseases and related problems of mushroom culture. Mushrooms are grown to a greater or less extent in every State in the Union with the possible exception of a few of the more southern ones, and the diseases are equally widespread. The truffle disease which is now causing the most concern to the industry was first found and studied in Ohio but is now known from Ohio, Pennsylvania, New York, Maryland, Illinois, Minnesota and Colorado. Other phases of the work of the projects are equally widespread. The project includes the development of new industries through efforts to establish in the United States cultivations of the European Truffle, the Japanese mushroom and to grow under artificial conditions the Morel and other desirable edible wild types. (Bureau of Entomology cooperating).

Appropriation, 1932 \$ 30,000
 Appropriation, 1933 5,000
Appropriation, 1934 4,758

Estimated Obligations, 1934 4,039
Budget Estimate, 1935 4,146

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 107

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
National Arboretum	\$ 1,434	\$ 4,039	\$ 4,146	+ \$ 107	- - -
<u>Unobligated:</u>					
Salary reduction.....	2,913	148	- - -	- - -	- - -
Working funds reduction..	653	571	- - -	- - -	- - -
<u>Total Appropriation.....</u>	<u>5,000</u>	<u>4,758</u>	<u>4,146</u>	<u>- 612 (1)</u>	

(1) This reduction of \$612 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 148
 Curtailment in 1934 working funds - 571
 5% salary restoration + 107
- 612

Work Done Under this Appropriation

This item is for development of the arboretum established under the Act of March 4, 1927. This work covers merely the minimum of maintenance of the tract of land, pending the purchase of additional land.

Emergency Funds Applicable
Under This Heading

Allotment under the National Industrial Recovery Act has been made for physical improvements and for land acquisition, as follows:

Cleaning up Arboretum area, chiefly hand labor - \$4,000
 Acquisition of land at the Arboretum site for
 forest research purposes -----386,000

Appropriation, 1932 \$ 58,260
 Appropriation, 1933 50,000
Appropriation, 1934 46,640

Estimated Obligations, 1934 38,499
Budget Estimate, 1935 40,327

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 1,828

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Plant parasitic and soil-inhabiting nematodes.....	\$36,769	\$ 35,709	\$ 37,309	+ \$ 1,600	- - -
Mermithidae, nemas infesting insects.....	3,093	2,790	3,018	+ 228	- - -
Total.....	39,862	38,499	40,327	+ 1,828	- - -
<u>Unobligated:</u>					
Salary reduction.....	4,336	2,544	- - -	- - -	- - -
Working funds reduction...	5,802	5,597	- - -	- - -	- - -
Total Appropriation.....	50,000	46,640	40,327	- 6,313 (1)	

(1) This reduction of \$6,313 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 2,544
 Curtailments in 1934 working funds - 5,597
 5% salary restoration. + 1,828
- 6,313

Work Done Under this Appropriation

These investigations deal with those nematodes (minute animals, popularly known as eelworms, or nemas) which are found living in the soil, attacking and parasitizing plants or destroying insects, millipeds, snails, and other small animals. A field laboratory is maintained at Salt Lake City, Utah.

Plant-parasitic and soil-inhabiting nematodes.--Under this project all plant diseases caused by nematodes are studied with a view to working out methods for their control and to determining the relationship of these and other nematodes to plant life, soil fertility, and various activities of man. The outstanding nematode pests dealt with are: (1) The root-knot nematode, known to attack about 900 different plant species, including most of the important crop and

horticultural plants, inflicting heavy losses in some regions upon vegetable, root, and orchard crops, cotton and tobacco. It is a dreaded greenhouse pest everywhere. (2) The bulb or stem nematode,-- exceedingly troublesome on some 220 plants (such as alfalfa, clover, oats, sweet potatoes, onions, and narcissus)** (3) The sugar-beet nematode. (4) The strawberry nematode, attacking a variety of plants besides the strawberry. (5) The meadow nematode,-- very troublesome on tobacco, potatoes, etc. (6) The citrus nematode. (7) The wheat nematode. And many others,

Mermithidae, nemas infesting insects.--Through these studies the fact was established that certain nematodes that are parasitic in insects may have a beneficial effect on crop production where they control or reduce numerous insect pests (such as grasshoppers, ants, crickets, the sugar-cane borer, gypsy moth, alfalfa weevil, etc.). Surveys seem to indicate that the absence of serious grasshopper outbreaks east of the dry Rocky Mountain region is largely due to some of these parasites, which, because of climatic conditions, fail to live in regions where grasshoppers are a recurrent plague. Other nematodes attacking the Japanese beetle, the cucumber beetle, the bark beetles, etc., look promising as efficient factors of control.

** The nematode diseases of flowering bulbs, with special reference to the narcissus nematode, Tylenchus dipsaci, are studied in cooperation with the Bureau of Entomology and the Bureau of Plant Quarantine.

(t) Phony Peach Eradication

Note: This item has been transferred to the Bureau of Entomology and Plant Quarantine.

Appropriation, 1932 \$ 18,050
 Appropriation, 1933 18,050
Appropriation, 1934 16,900

Estimated Obligations, 1934 13,978
Budget Estimate, 1935 14,660

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 682

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Plant Nutrition Investigations.....	\$16,507	\$ 13,978	\$ 14, 660	+ \$ 682	- - -
<u>Unobligated:</u>					
Salary reduction.....	1,381	894	- - -	- - -	- - -
Working funds reduction...	162	2,028	- - -	- - -	- - -
Total Appropriation.....	18,050	16,900	14,660	- 2,240 (1)	

(1) This reduction of \$2,240 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... - \$ 894
 Curtailments in 1934 working funds..... - 2,028
 5% salary restoration..... + 682
- 2,240

Work Under this Appropriation

In the field management of the tobacco crop the great variation in influence of certain crops on both yield and quality in the crop rotation system is particularly important. Plant nutrition investigations are directed toward the determination of the extent and significance of the influence of these variations, particularly on yield and quality of crops included in the rotation, and include the inter-relation of crops other than tobacco and the relative plant food requirements both of the tobacco and the crops which may be grown in rotation with it.

Studies are also made of the effect of length of day on growth, development and composition of plants including effects of daily duration, intensity and color or composition of the light; (influence of certain crops on other crops following in the rotation; and the plant food elements and the relative plant-food requirements of crops commonly grown in rotation). The work is carried on with the same personnel as Tobacco Investigations.

Appropriation, 1932 \$ 140,463
 Appropriation, 1933 75,000
Appropriation, 1934 69,474

Estimated Obligations, 1934 57,079
Budget Estimate, 1935 60,035

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 2,956

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Acclimatization and adap- tation of rubber and other tropical plants....	\$48,192	\$ 41,096	\$ 43,184	+ \$2,088	- - -
Fiber plants.....	18,753	15,983	16,851	+ 868	- - -
Total.....	66,950	57,079	60,035	+ 2,956	- - -
<u>Unobligated:</u>					
Salary reduction.....	5,985	4,058	- - -	- - -	- - -
Working funds reduction..	2,065	8,337	- - -	- - -	- - -
Total Appropriation.....	75,000	69,474	60,035	- 9,439 (1)	

(1) This reduction of \$9,439 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut. - \$4,058
 Curtailments in 1934 working funds - 8,337
 5% salary restoration + 2,956
- 9,439

Work Done Under this Appropriation

The work under this appropriation consists chiefly of research toward acclimatization and adaptation of crops from tropical regions, rubber production investigations and fiber production investigations. Field experiments are carried on at the stations maintained under the item for Cotton Production and Diseases, and cooperative experiments are located at the State agricultural experiment stations and with other cooperating agencies.

Acclimatization and adaptation of rubber and other tropical plants.---Under this project problems of rubber production are being investigated in relation to plants that can be grown in the United States and in the Canal Zone, or in adjacent countries of tropical America, to provide new crops for the United States

and lessen the danger of complete dependence on remote sources of supply in the East Indies. Native and foreign species of rubber-producing plants are being tested and investigated in Florida, Texas, New Mexico, Arizona and California. The Hevea rubber tree of Brazil, the same that is cultivated extensively in the East Indies, is found to grow well in southern Florida. The present low prices of rubber, by tending to develop many new uses, are increasing the danger of dependence on foreign supplies, and render it the more necessary to determine the feasibility of establishing a producing industry or reserve supplies of rubber in the United States or in adjacent countries of tropical America. (Reclamation Service, Rubber Division of Commerce Department, Canal Zone Government, War Department, and Bureau of Standards cooperating). The agriculture of the United States is based largely on plants from tropical countries, as maize or Indian corn, cotton, tobacco, potatoes, peanuts, beans, and rice. Many other tropical fruits, vegetables and other plant products are believed to be capable of more extensive utilization in the southern and southwestern States if suitable varieties and cultural methods are developed.

Fiber plants.---Work under this project includes the investigation of hemp and flax fiber production in the United States and of hard fibers such as abaca (Manila hemp), maguey, sisal, and henequen in the tropics; and all plant fibers, except cotton, used for ropes, twines, yarns, woven fabrics, hats, matting and stuffing or filling. Owing to reduction of funds, field work in the Philippines, Panama and Puerto Rico has been discontinued. Field experiments with hemp are carried on at Arlington Farm and in cooperation with the State Experiment Stations in Virginia and Wisconsin. Experiments with Fiber Flax are carried on in cooperation with the Oregon Agricultural Experiment Station.

(w) Seed Investigations

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Appropriation, 1932 \$ 78,220
 Appropriation, 1933 75,500
Appropriation, 1934 70,648

Estimated Obligations, 1934 58,662
Budget Estimate, 1935 61,509

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 2,847

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Seed Testing.....	\$ 41,858	\$ 31,953	\$ 33,553	+\$ 1,600	- - -
Federal Seed Act.....	26,316	26,459	27,706	+ 1,247	- - -
International Seed Testing Congress.....	250	250	250	- - -	- - -
Total	68,424	58,662	61,509	+ 2,847	- - -
<u>Unobligated:</u>					
Salary reduction.....	6,208	3,508	- - -	- - -	- - -
Working funds reduction...	565	8,478	- - -	- - -	- - -
Total Appropriation.....	75,500	70,648	61,509	- 9,139 (1)	

(1) This reduction of \$9,139 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... - \$ 3,508
 Curtailments in 1934 working funds..... - 8,478
 5% salary restoration..... + 2,847
- 9,139

Work Done Under this Appropriation

The work under this appropriation includes research on the problems connected with the quality of agricultural seeds, informational service on samples submitted for test and in connection with enforcement of Federal Seed Act. Co-operative Seed Testing Laboratories are maintained at Sacramento, Calif., Lafayette, Ind., Columbia, Mo., and Corvallis, Oreg.

Research.--Various groups of seeds which are difficult of identification, including both crop seeds and seeds of weeds, have been studied to determine the characters which may be used in their identification and separation. This work has been of primary importance in connection with such cultivated plants as the GRASSES, including the rye grasses, fescues, bent grasses and bluegrasses, as well

as VETCHES and BRASSICAS. Similar studies have been made and are being made of the troublesome weeds so that their identification may be made by seed analysis generally.

Studies have been made of the fundamental physiological factors controlling germination, with particular attention being paid to the groups of cultivated plants where germination has been found difficult, or where the seeds, on account of dormancy, did not respond readily to the usual methods of seed testing. These studies have dealt both with problems designed to advance our knowledge of the general principles involved in seed germination and with specific difficulties in the carrying out of seed germination tests. The more general problems have involved studies of the development of important seed structures and of the effect of temperature, light, gases and chemicals on the processes of germination and on seed storage.

Seed Testing.--Under this project an advisory service is maintained for farmers, seedsmen and others interested in seed quality, based upon seed samples tested to determine the proportion of pure seeds present, the kind and proportion of weed seeds, the germination of the pure seed, and region of production for insuring to farmers that the seed to be planted is pure and of good quality.

Federal Seed Act.--Appropriation in that part of the Act, as follows: "For carrying out the provisions of the Act approved August 24, 1912 (U.S.C., title 7, secs. 111-114), entitled 'An Act to regulate foreign commerce by prohibiting the admission into the United States of certain adulterated grain and seeds unfit for seeding purposes!'"

The Federal Seed Act is enforced under this project, requiring the sampling and testing of all field seeds offered for entry to determine fitness for entry into the United States, the supervision of coloring of alfalfa and red clover of foreign origin, and cooperation with State agencies to determine whether any seed shipped in interstate commerce is fraudulently misbranded. This work is required by law to prevent the planting of seed unduly adapted to this country.

International Seed Testing Congress.--Under this project participation in the International Seed Testing Congress on the part of the United States is authorized to the extent of \$250. The Seed Testing Congress is endeavoring to set up international rules for testing seed to insure uniformity.

(x) Sugar Plant Investigations

Appropriation, 1932 \$413,700
 Appropriation, 1933 385,462
Appropriation, 1934 340,000

Estimated Obligations, 1934 282,941
Budget Estimate, 1935 231,028

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 51,913

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Sugar beet investigations...	\$ 246,411	\$ 131,546	\$ 142,277	+ \$ 6,815	\$-61,399(2)
Sugar cane investigations...	106,351	91,395	88,751	+ 2,671	--
Total.....	352,762	282,941	231,028	+ 9,486	-61,399(2)
<u>Unobligated:</u>					
Salary reduction.....	26,065	16,259	--	--	--
Working funds reduction....	6,635	40,800	--	--	--
Total Appropriation.....	385,462	340,000	231,028	-108,972 (1)	

(1) This reduction of \$108,972 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 16,259
 Curtailments in 1934 working funds - 40,800
 Further reduction in working funds for 1935
 (Sugar beet investigations). - 61,399
 5% salary restoration + 9,486
- 108,972

(2) The reduction of \$61,399 in working funds for 1935 will involve discontinuance of sugar beet investigations as follows:

Field studies to determine improved cultural practices in Michigan;
 Root rot, including black root, investigations in Minnesota;
 Field studies on agronomic practices in Southern Colorado;
 Field tests of leaf-spot resistant varieties in Southern Colorado;
 Root rot investigations, including late blight studies, in Utah;

Agronomic investigations under curly-top conditions, including
 tests of resistant varieties in western Colorado and Utah;
 Sugar-beet seed production studies in Utah;
 Studies of weedy lands in relation to curly top in Idaho;
 Study of weed hosts of curly-top virus in Idaho;
 Biochemical studies on nature of curly-top resistance in California;
 Studies on curl -top virus attenuation and restoration of virulence
 by passage through weed hosts;
 Active participation in sugar-beet seed production investigations
 in New Mexico, and possibly;
 Agronomic investigations in Southern California.

The field station at Rocky Ford, Colorado, and field headquarters at Logan, Utah, and East Lansing, Michigan will be discontinued. Projects will be eliminated at Riverside, California, Twin Falls, Idaho, Salt Lake City, Utah, Las Cruces, New Mexico, and St. Paul, Minnesota.

Work Under this Appropriation

The work under this appropriation consists chiefly of research on the problems connected with the growing of sugar cane and sugar beets in the United States, including the control of diseases affecting these crops.

Sugar cane investigations.--Under this project investigations include the study of sugarcane diseases, development of methods for their control, breeding and testing of new varieties of cane for the purpose of developing varieties better adapted to conditions in this country as well as resistant to diseases and capable of furnishing better yields in Louisiana, Florida, and other Southern States, and Puerto Rico. The sugar cane industry is particularly interested in the investigations on field methods of controlling diseases and in the increase of seed supplies of disease-resistant varieties of sugar cane.

Outstanding progress has resulted from this work, the most striking example being the reconstitution of the Louisiana sugar cane industry by means of disease resistant varieties of cane. The five-year average production of sugar reflecting the per acre yield of cane during the period 1924-1928 dropped because of a recently introduced virus disease to 95,400 tons per year compared with an average of 280,000 tons for the previous twenty years. Restoration to an average of 195,000 tons per year for the five years just past is directly attributable to this research and the outlook for complete restoration of this important industry and the cane sirup industries of the Gulf States seems dependent only on intensive prosecution of work under this appropriation. (Puerto Rico Agricultural Experiment Station, Louisiana Agricultural Experiment Station, Mississippi Agricultural Experiment Station, and Division of Soil Fertility,

Bureau of Chemistry and Soils cooperating.)

Sugar beet investigations.--Under this project superior yielding varieties are being developed, strains resistant to disease are selected for increase, types of beets better adapted to conditions in this country are produced, experiments involving comparative studies of cultural practices are performed, and special methods for the control of curly-top and other serious diseases, including special investigations in cooperation with the Bureau of Entomology for the control of the curly-top disease of sugar beets transmitted by the leafhopper. The sugar-beet industry is particularly interested in the investigations on field methods of controlling diseases and in the increase of seed supplies of disease-resistant sugar beets.

Gratifying progress in the development of strains of sugar beets resistant to curly-top and leaf spot, the principal diseases of beets, has been made and one strain showing a measure of resistance to curly-top has been released for commercial culture. Strains of greater promise are in process of development and test, forecasting the eventual removal of these disease hazards which take a toll of many millions of dollars every year and threaten the existence of a large proportion of the industry with capital investments of over fifty million dollars. Successful fruition of work on disease-resistant strains of sugar beets will incidentally bring a new industry to American farmers, the commercial production of sugar-beet seed, the beginning of which, attributable entirely to this research, was started on a substantial basis in 1933, and in future years if work is actively continued will free American beet growers from the anomalous but traditional dependence on European seedsmen. (California Agricultural Experiment Station, New Mexico Agricultural Experiment Station, Colorado Agricultural Experiment Station, Minnesota Agricultural Experiment Station, Michigan Agricultural Experiment Station, Division of Soil Fertility and Carbohydrate Division, Bureau of Chemistry and Soils, Division of Mechanical Equipment, Bureau of Agricultural Engineering cooperating).

Field stations and laboratories are maintained at the following points:

Canal Point, Florida	Twin Falls, Idaho
Cairo, Georgia	Riverside, California
Houma, Louisiana	Fort Collins, Colorado
Cunayama, Puerto Rico	Salt Lake City, Utah
	Rocky Ford, Colorado

Emergency Funds Applicable
Under This Heading

Allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Constructing garage, reconditioning beet-storage cellar,
repairing and painting government laboratories and
cottages, erecting small cottage and office building
and reconditioning field laboratory buildings - \$8,705

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

(y) Tobacco Investigations

Appropriation, 1932 \$91,000
 Appropriation, 1933 90,600
Appropriation, 1934 80,000

Estimated Obligations, 1934 65,892
Budget Estimate, 1935 69,245

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 3,353

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Tobacco Investigations....	\$80,231	\$65,892	\$69,245	+\$3,353	- -
<u>Unobligated:</u>					
Salary reduction.....	9,096	4,508	- -	- -	- -
Working funds reduction...	1,273	9,600	- -	- -	- -
Total Appropriation.....	90,600	80,000	69,245	- 10,755 (1)	

(1) This reduction of \$10,755 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 4,508
 Curtailments in 1934 working funds - 9,600
 5% salary restoration + 3,353
 - 10,755

Work Done Under This Appropriation

Tobacco investigations include all phases of growing, curing and handling tobacco, with the exception of tobacco insects and their control. The work consists of studies on tobacco diseases and their control, laboratory research on causes of poor quality in leaf tobacco and field investigations in the improvement of methods of fertilization, growing, curing, and handling the different types of leaf as each distinctive type of tobacco presents special cultural problems, in order to avoid heavy and erratic losses in the tobacco industry.

Cooperative experiments are carried on at the Agricultural experiment stations of tobacco-growing States, namely, Connecticut, Florida, Georgia, Maryland, Massachusetts, North Carolina, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin, but no independent field stations are maintained.

(z) Western Irrigation Agriculture

Appropriation, 1932\$ 187,875 (a)
 Appropriation, 1933 147,950
Appropriation, 1934 130,000

Estimated Obligations, 1934 106,789
Budget Estimate, 1935 28,633

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 78,156

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Agronomic Investigations on Irrigation Projects	\$ 97,343	\$ 77,842	\$ -----	\$ -----	-\$77,842(2)
Boron Investigations	33,881	27,463	28,633	+ 1,170	-----
Irrigation and Ground Water Investigations	4,272	1,484	-----	-----	- 1,484(3)
Total	135,496	106,789	28,633	+ 1,170	- 79,326
<u>Unobligated:</u>					
Salary reduction	10,418	7,611	-----	-----	-----
Working funds reduction ..	2,036	15,600	-----	-----	-----
Total Appropriation	147,950	130,000	28,633	- 101,367	(1)

(1) This reduction of \$101,367 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 7,611
 Curtailments in 1934 working funds - 15,600
 Further reduction in working funds for 1935
 (Elimination of allotments of: \$77,842 for
 Agronomic Investigations on Irrigation Pro-
 jects and \$1,484 for Irrigation and Ground
 Water Investigations - 79,326
 5% salary restoration + 1,170
- 101,367

(a) Includes \$153,940 in regular appropriation for 1932 and \$33,935 of the \$35,000 supplemental appropriation for 1932 carried in the Second Deficiency Act, 1931-1932, for relocating and equipping Hermiston, Oregon, field station.

The reduction of \$79,326 in working funds for 1935 includes:

(2) A decrease of \$77,842, the elimination of the agronomic investigations on irrigation projects. This decrease contemplates the discontinuance of work under this heading which is conducted in cooperation with the States of Nebraska, South Dakota, Montana, Oregon, Washington, California, Arizona, and Nevada as well as with several Federal agencies and large water users' associations.

(3) A decrease of \$1,484, the elimination of irrigation and ground water investigations. Work under this project consists of analysis of water used for irrigation and recovered by drainage in order to anticipate the danger of crop injury and to determine the effectiveness of drainage works in preventing salt accumulation in irrigated lands. These investigations are being conducted on three large irrigation projects: the El Paso, Yuma, and Imperial Valleys, and in the South Coastal Basin of California.

Work Done Under this Appropriation

The work under this appropriation consists primarily of determining by field studies and experiments the crops, rotations, cropping methods, soil treatments, and irrigation practices (including the quality of the irrigation water) that will contribute to a permanently successful irrigation agriculture on lands reclaimed under the Reclamation Act and other extensive irrigated areas. An important feature of the results of these investigations is the accumulation of valuable data from a series of crop rotations and tillage experiments, which have thrown a significant light on the economical production of staple crops and the value of crop diversification as an aid in the control of plant diseases, insect and weed pests. At three of the field stations the twenty-second successive season of results were recorded in 1935 from over 150 crop sequences.

Other lines of work under this project are: (1) Determining the varieties of various crops best adapted to existing conditions; (2) improved irrigation practices; (3) variety tests of suitable fruits and vegetables in order that the settlers will be more nearly self-sustaining; (4) ascertaining the most practical farming methods for obtaining and maintaining crop yields of a magnitude likely to assure a profit; (5) developing the more efficient utilization by means of livestock of crops grown for soil improvement purposes; (6) determining the extent that the livestock industry may be advantageously included in the farm program; (7) developing improved irrigation practices that will aid in preventing the accumulation of harmful concentrations of salts in the root zone so that the productivity of the soil may be maintained; (8) where climatic and other conditions are favorable, determining the possibilities of specialized, high-priced crops of a less competitive nature and ascertaining the problems incident to their successful production; (9) developing further authentic information with respect to the agricultural potentialities of the lands now under cultivation.

The discontinuance of the work will involve the elimination of the following field stations:

Belle Fourche Field Station, Newell, South Dakota
Huntley Field Station, Huntley, Montana
Newlands Field Station, Fallon, Nevada
Scotts Bluff Field Station, Mitchell, Nebraska
Umatilla Field Station, Hermiston, Oregon
Yuma Field Station, Bard, California

In addition the Division is participating in the investigational work at the Irrigation Branch Station, Prosser, Washington.

Emergency Funds Applicable Under This Heading

Allotment under the National Industrial Recovery Act has been made for physical improvements as follows:

Painting and repairing buildings, replacing fences, leveling land, replacing office and laboratory buildings, drainage and road construction - \$21,750.

This money was made available August 1, 1933, and will be expended during the fiscal year 1934.

Limitation on Purchase of Passenger-Carrying Vehicles

The purchase authorization of the bureau for 1934 is \$13,200. The authorization for 1935, \$3,750, therefore constituted a reduction of \$9,450. The purchases proposed to be made during the fiscal year are set forth in the Budget Schedule.

Emergency Funds ApplicableUnder Bureau of Plant Industry for Erosion Control Nurseries.Allotments Under the National Industrial Recovery Act.

<u>Location</u>	<u>Character of Work</u>	<u>Amount</u>
<u>Louisiana</u> Shreveport	Construction of an erosion control nursery for the growing of soil-protecting trees, bushes, plants and grasses.	\$ 25,000
<u>Iowa</u> Ames	do	70,000
<u>Missouri</u> Elsberry	do	70,000
<u>New Mexico</u> & <u>Arizona</u>	do	70,000
<u>North Dakota</u> Mandan	do	70,000
<u>Oklahoma</u> Woodward	do	70,000
<u>Texas</u> San Antonio	do	45,000
<u>Washington</u> Pullman	For the growing of plants and related erosion studies in the Palouse and adjacent areas.	35,000
<u>Wyoming</u> Cheyenne	Construction of an erosion control nursery for the growing of soil-protecting trees, bushes, plants, and grasses.	35,000
<u>Unallotted</u>	do	70,000
<u>Unallotted</u>	do	70,000
Total		<u>630,000</u>

Allotment from Emergency Conservation Fund:

An allotment was made to Forest Service of the Department of Agriculture from the War Department (Act March 31, 1933) of which \$30,000 was transferred to the Bureau of Plant Industry to be expended in 1934. This allotment was to be used in carrying on the work of approved projects of research in forest pathology.

The above emergency funds were allotted to the Bureau of Plant Industry up to October 31, 1933 and were included in the Budget Schedules. The following emergency funds have been allotted since October 31, 1933:

Allotments under the National Industrial Recovery Act:

Civil Works Administration - \$467,420

Alabama	\$ 20,000	New Mexico	\$ 2,550
Arizona	27,900	New York	16,190
California	39,993	North Carolina	7,682
Colorado	3,512	North Dakota	1,700
Connecticut	4,052	Ohio	10,513
District of Columbia	34,578	Oklahoma	3,900
Florida	58,118	Oregon	3,210
Georgia	22,805	Pennsylvania	1,301
Louisiana	13,560	Puerto Rico	270
Maryland	89,076	Rhode Island	500
Mississippi	2,236	South Dakota	1,550
Montana	2,400	Texas	7,870
Nebraska	410	Virginia	13,945
Nevada	13,000	Washington	9,592
New Jersey	16,640	Wisconsin	1,002
		Wyoming	37,365
			<u>467,420</u>

(a) General Administrative Expenses

Appropriation, 1932 \$30,000
 Appropriation, 1933 39,800
Appropriation, 1934 36,810

Estimated Obligations, 1934 32,000
Budget Estimate, 1935 33,867

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 1,867

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or 5% Salary Restoration	Decrease Working funds
<u>Obligated:</u>					
General Administration	\$36,040	\$32,000	\$33,867	\$41,867	- - -
<u>Unobligated:</u>					
Salary reduction.....	3,750	2,609	- - -	- - -	- - -
Working funds reduction	10	2,201	- - -	- - -	- - -
Total Appropriation....	39,800	36,810	33,867	- 2,943 (1)	

(1) This reduction of \$2,943 below the appropriation for 1934 consists of

Impoundment of 6-2/3% of 15% pay cut -\$2,609
 Curtailments in 1934 working funds - 2,201
 5% salary restoration + 1,867
- 2,943

Work Done Under this Appropriation

This appropriation covers the general supervisory work of the Bureau and the accounting, recording, and administrative correspondence work in the Washington Office.

Appropriation, 1932	\$553,840
Appropriation, 1933	478,890
<u>Appropriation, 1934</u>	<u>375,000</u>

<u>Estimated Obligations, 1934</u>	<u>310,034</u>
<u>Budget Estimate, 1935</u>	<u>228,518</u>

Decrease, Budget 1935, compared with
estimated obligations, 1934. 81,516

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or decrease 5% salary Restoration	Working Funds
<u>Obligated:</u>					
Farm Irrigation.....	\$102,341	\$ 83,600	- - -	- - -	\$-83,600 (2)
Farm Drainage & Erosion control.....	60,803	43,400	\$ 43,900	\$ +2,342	- 1,842 (3)
Development of Farm Lands:	4,381	7,734	7,718	+ 293	- 309 (4)
Farm Buildings.....	29,599	25,400	25,700	+1,351	- 1,051 (5)
Farm Mechanical Equipment:	140,250	86,100	87,200	+4,700	- 3,600 (6)
Cotton Ginning.....	48,674	33,200	33,200	+1,315	- 1,315 (7)
Miscellaneous Research...	8,746	4,600	4,700	+ 320	- 220 (8)
Advice and Assistance....	27,288	26,000	26,100	+1,070	- 970 (9)
Total.	422,082	310,034	228,518	+11,391	-92,907
<u>Unobligated:</u>					
Salary reduction	37,178	20,133	- - -	- - -	- - -
Working Funds Reduction....	19,630	44,833	- - -	- - -	- - -
Total Appropriation.....	478,890	375,000	228,518	- 146,482 (1)	

(1) This reduction of \$146,482 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$20,133
Curtailments in 1934 working funds	- 44,833
Further reduction in working funds for 1935 due to a general decrease in projects and elimination of Farm Irrigation project	- 92,907
5% Salary restoration	+ 11,391
	<u>- 146,482</u>

The reduction of \$92,907 in working funds includes:

(2) A reduction of \$83,600 on Farm Irrigation. This decrease contemplates the discontinuance of all work on this project.

(3) A reduction of \$1,842 for Farm Drainage and Erosion Control. This decrease will be effected by a curtailment of the amount of work undertaken.

(4) A reduction of \$309 for Development of Farm Lands. This reduction will be effected by confining the work to locations which although not altogether desirable from a technical standpoint are readily accessible.

(5) A reduction of \$1,051 for investigations of Farm Buildings. This reduction will be made by curtailing the work to be done under this project.

(6) A reduction of \$3,600 for Farm Mechanical Equipment. This reduction will be effected by reducing the scope of the work on this project.

(7) A reduction of \$1,315 for Cotton Ginning. This reduction will be made by virtue of postponing the purchase of equipment.

(8) A reduction of \$220 for Miscellaneous Research. This reduction will be effected by curtailment of expenditures.

(9) A reduction of \$970 for Advice and Assistance. This reduction will be made by reducing the amount of services of various kinds now rendered to farmers upon request.

Work Done Under this Appropriation

The work under this appropriation consists chiefly of research on the engineering problems of agriculture. These problems are included in the fields of farm irrigation, farm drainage, including the control of soil erosion, farm machinery and farm power, farm structures, and the development of farm lands to make possible their most economical and effective utilization. On request, the Bureau also renders engineering service to other bureaus of the Department with respect to the facilities and equipment required in their work.

Authorization covering purchase of Passenger-carrying Vehicles

The language authorizing the purchase of motor-propelled and horse-drawn passenger-carrying vehicles necessary in the conduct of field work outside the District of Columbia is being omitted from the 1935 estimates, as it is not contemplated that any vehicles will be purchased during 1935.

Emergency Funds Applicable
Under This Heading

Allotments under the National Industrial Recovery Act have been made for physical improvements such as experimental laboratories, dwellings and sheds, alterations to equipment, building and repairing of roadways, fences, etc., on Government property, all of which are necessary in order to provide proper facilities for carrying out investigations now under way. The aggregate amount of these allotments is as follows:

Mississippi	\$ 78,213
Alabama	110,975
Louisiana	8,400
California	21,500
Oregon	2,300
Florida	<u>2,400</u>
Total	<u>\$223,788 (a)</u>

This money was made available by different allotments during the first half of fiscal year 1934 and will be expended during the remainder of fiscal year 1934 and during the first half of the fiscal year 1935.

(a) Of this amount, \$197,588 was allotted for expenditure prior to Nov. 1, 1933, and is included in the Budget schedules. The balance, \$26,200, was allotted subsequent to Oct. 31, 1933.

An allotment of \$11,915 from the Civil Works Administration has been made to this bureau for rainfall-runoff studies. These funds have been made available and will be obligated during the fiscal year 1934.

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BUREAU OF HOME ECONOMICS

(a) General Administrative Expenses

Appropriation, 1932\$ 28,000
 Appropriation, 1933 27,900
 Appropriation, 1934 26,049

Estimated Obligations, 1934\$ 24,483
 Budget Estimate, 1935 25,747

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 1,264

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
General Administration	\$22,990	\$24,483	\$25,747	+\$1,264	- - -
<u>Unobligated:</u>					
Salary reduction	2,609	1,566	- - -	- - -	- - -
Working Funds Reduction	2,301	- - -	- - -	- - -	- - -
Total Appropriation	27,900	26,049	25,747	-302(1)	

(1) The reduction of \$302 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$1,566
 5% Salary restoration +1,264
 - 302

WORK UNDER THIS APPROPRIATION

The activities under this appropriation include: (1) the office of the Chief of bureau, (2) the business office of the Bureau where general administrative activities of the bureau, such as personnel, accounts, budget, correspondence, and bureau files, are handled, and (3) the bureau library.

BUREAU OF HOME ECONOMICS

(b) Home Economics Investigations

Appropriation, 1932 \$218,700
 Appropriation, 1933 205,465
 Appropriation, 1934 186,700

Estimated Obligations, 1934 \$144,355

Budget Estimate, 1935 129,819

Decrease, Budget 1935, compared with

Estimated Obligations, 1934 \$ 15,036

PROJECT STATEMENT

Project	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary : Restoration	Working Funds
<u>Obligated:</u>					
Home Economics Information	\$ 17,877	\$ 15,749	\$ 16,530	+ \$781	- - -
Foods and Nutrition:					
Utilization of Food Products	24,944	24,581	18,500	+ 612	- 6,693
Studies in Human Nutrition...	24,593	19,099	19,000	+ 922	- 1,021
Composition of Foods	11,642	11,327	12,140	+ 813	- - -
Institutional Cookery.....	3,065	2,058	950	- - -	- 1,108
Household Management and					
Standards of Living:					
Standards of Living.....	12,816	10,374	9,800	+ 494	- 1,068
Family Budgets	8,940	7,926	8,000	+ 295	- 221
Food Consumption	14,019	13,179	10,000	+ 638	- 3,817
Housekeeping Efficiency					
Studies	9,671	6,566	4,274	+ 469	- 2,761
Household Equipment Studies..	3,336	2,813	525	- - -	- 2,288
Textile and Clothing:					
Cotton Utilization	26,407	23,965	24,000	+1,042	- 1,007
Wool Utilization	2,392	7,218	6,100	+ 583	- 1,701
Total	\$166,508	\$144,855	\$129,819	+ \$6,649	-\$21,685(2)
<u>Unobligated:</u>					
Salary reduction	16,957	10,457	- - -	- - -	- - -
Working Funds Reduction	22,000	31,388	- - -	- - -	- - -
Total Appropriation	\$205,465	\$186,700	\$129,819	-\$56,881(1)	

(1) This reduction of \$56,881 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$10,457
 Curtailment in 1934 working funds -\$31,388
 Further reduction in working funds for
 1935, as shown in project statement above. . . -\$21,685
 5% Salary Restoration + \$ 6,349
 -\$56,881

(2) The reduction of \$21,685 in working funds for 1935 will be met by the further curtailment and elimination of studies under several divisions, in order to retain so far as possible the basic organization of the Bureau.

Work under this appropriation

The research work of the Department in the field of Home Economics is conducted under this appropriation. The efficiency of this organization and the value of its studies has been demonstrated by the essential information it has furnished to the recovery agencies of the Government. It is the only government agency concerned primarily with the establishment of standards for consumer goods. No field stations are maintained, the work all being done in Washington. The investigations now under way relate to:

Home Economics Information: The dissemination of results of research studies of the bureau in both technical and popular form to meet requests of consumers for help in choice and use of agricultural products, and for guidance in adjustment of family and individual expenditures to promote a satisfactory standard of living.

Foods and Nutrition Investigations: (1) Analyzing methods of preparation of food with a view to originating, improving, and standardizing processes; (2) Establishing the relation between variety, quality, and nutritive value of foods and their uses in food preparation; (3) Determining the factors which enter into food quality and the methods of determining and measuring these, and in cooperation with producing groups investigating the influence of variety, breed, or other production factors on edible quality, using these as a basis for establishing quality standards for food products; (4) Determining the value of foods in human nutrition, how the nutritive value may be altered by different methods of production, and the effect of handling, cooking, and other methods of preparation on the nutritive value; (5) Collecting, evaluating, and summarizing data on the chemical composition of all classes of foods, for the use of consumers and scientific workers in the field of foods and nutrition; (6) A study of equipment for institutional cookery quantity preparation and service of foods.

Household Management and Standards of Living: (1) Collection and analyses of facts which will serve as a basis for determining the adequacy of the living standards maintained by different groups in the population; (2) Furnishing the factual background needed in the preparation of budgets to provide homemakers, teachers, and social workers with material on the satisfactory administration of family income; (3) Preparing material on household budgeting and accounting and on purchasing from the consumers' standpoint, to guide homemakers in making the best possible use of the family's resources; (4) Determining the kind, amounts, and money value of the food materials consumed by different groups of the population, to provide information for improving the healthfulness and economy of the diet of the American people, and as a basis for national planning of the food production program; (5) A study of the efficient use of time and money in performing the work of the home; (6) As a basis for establishing standard specifications for consumers.

Textiles and Clothing: (1) Determining the relative value to the consumer of different varieties and grades of American-grown cotton when woven into different fabrics and measured by their reaction to wear and laundering; (2) Improving methods of utilization and care of cotton fabrics in the home; (3) Investigating the relative serviceability from the consumer standpoint of different kinds of virgin and reworked wool and mohair when woven either alone or in combination into typical household fabrics; (4) Developing methods of detecting the presence and amount of new and reworked wool in woven cloth for use in "truth-in-fabric" regulatory work; (5) Setting up buying guides and demonstrating to consumers efficient methods of utilizing fabrics of cotton and wool for household articles and in garments designed according to modern principles of clothing hygiene.

Emergency Funds Applicable
Under This Heading

The following allotment under the National Industry Recovery Act was received for emergency expenditures up to October 31, 1933:

(1)	For construction of storage refrigerator.	\$1,000
(2)	For construction of laboratory hood	200
	TOTAL	1,200

This money was made available August 25, 1933, and will be expended during the fiscal year 1934.

The following allotment under the Civil Works Administration was received for emergency expenditure subsequent to October 31, 1933:

(1)	Farm housing survey (Administrative expenses in the District of Columbia).	\$38,425
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This money was made available December 15, 1933 and will be expended during the fiscal year 1934.

In addition to the above amount, \$1,050,570 also will be expended in the 48 States under the Civil Works Administration on the Farm Housing Survey.

FOOD AND DRUG ADMINISTRATION

(a) General Administrative Expenses

Appropriation, 1932 \$ 105,455
 Appropriation, 1933 104,800
 Appropriation, 1934 96,827

Estimated Obligations, 1934 90,127
Budget Estimate, 1935 95,178

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 5,051

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Total, General Administrative Exp...	\$93,663	\$90,127	\$95,178	+ \$5,051	--
<u>Unobligated:</u>					
Salary Reductions...	10,549	6,700	--	--	--
Working funds reduction.....	588	--	--	--	--
Total Appropriation...	104,800	96,827	95,178	- 1,649(1)	

(1) This decrease of \$1,649 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$6,700
 5% salary restoration + 5,051

- 1,649

Work Done Under this Appropriation

This appropriation is used for overhead expenses, such as general supervision, accounting, editorial work, purchase and distribution of supplies, filing, recording, plumbing, electrical and mechanical work and the like, applicable to operations in connection with the acts enforced by the Food and Drug Administration.

Emergency Funds ApplicableUnder this Heading

Allotments under the National Industrial Recovery Act aggregating \$1,000 have been made for physical improvements, as follows:

- (1) Reconditioning 61 motors by changing from
direct to alternate current \$1,000

This money was made available August 3, 1933 and will be expended during the fiscal year 1934 (August 3, 1933 to June 30, 1934, incl).

(b) Enforcement of the Food and Drugs Act.

Appropriation, 1932	\$1,315,865
Appropriation, 1933	\$1,265,219
Plus: Transfers from the appropriations for:	
Milk Import Act	+ 2,900
Insecticide Act	+ 2,100
Total amount available 1933	1,270,219
<u>Appropriation, 1934</u>	<u>1,168,000</u>

<u>Estimated Obligations, 1934</u>	<u>1,114,995</u>
<u>Budget Estimate, 1935</u>	<u>1,161,477</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>46,482</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
Obligated:					
Beverages & beverage products.....	\$ 24,100	\$ 23,650	\$ 24,390	+ 1,105	-\$ 365
Cereal products.....	42,317	41,950	44,140	+ 2,200	- 10
Chocolates & saccharin..	32,521	32,250	33,680	+ 1,525	- 95
Dairy products.....	97,293	95,670	99,890	+ 4,515	- 295
Eggs.....	25,066	24,730	25,550	+ 1,155	- 335
Fishery products.....	103,916	103,200	108,020	+ 4,800	- 60
Flavors and spices.....	60,350	40,000	41,810	+ 1,890	- 80
Fruit products.....	204,932	202,670	211,390	+ 9,345	- 625
Feeds, stock.....	4,312	4,450	4,650	+ 210	- 10
Meat products & poultry..	6,513	6,680	6,970	+ 315	- 25
Miscellaneous.....	11,933	12,230	12,780	+ 575	- 25
Nuts & nut products.....	15,439	15,050	15,100	+ 600	- 630
Oils and fats.....	15,539	15,050	15,100	+ 630	- 630
Vegetable products.....	129,514	127,920	133,570	+ 6,035	- 385
Crude drugs.....	18,863	18,270	18,580	+ 340	- 530
Pharmaceuticals.....	139,529	136,900	142,860	+ 6,455	- 495
Proprietary preparations.....	162,575	161,250	168,410	+ 7,610	- 450
Veterinary preparations..	19,305	19,350	19,740	+ 395	- 505
Vitamin preparations.....	21,713	21,500	22,067	+ 397	- 430
Mapes Amendment.....	11,665	12,225	12,780	+ 575	- 20
Total.....	1,147,570	1,114,995	1,161,477	+ 52,482	- 6,000(2)
Unobligated:					
Salary reduction.....	119,000	70,005	- -	- -	- -
Working funds reduction.....	3,569	- -	- -	- -	- -
Total Appropriation.....	1,270,219	1,185,000	1,161,477	- 23,523(1)	

(1) This reduction of \$23,523 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 1935 pay cut - 70,005
Reduction in working funds for 1935 - 6,000
5% salary restoration + 52,482

- \$23,523

(a) Includes for 1933 \$2,900 transferred from the appropriation for Milk Import Act, and \$2,100 transferred from the appropriation for Insecticide Act.

(2) The reduction of \$6,000 in working funds for 1935 is made in the amount for the payment of rents. This decrease has been made possible since the Administration is moving the Chicago Station headquarters to a Federal Building during the latter part of the fiscal year 1934 and this will, therefore, result in a saving in the fiscal year 1935.

Work Done Under this Appropriation

This appropriation provides for enforcing the food and drugs act, commonly called the pure food law, approved June 30, 1906 (U.S.C., title 21, Secs. 1-15). The purpose of this act is to prevent the shipment in interstate or foreign commerce, and the manufacture and sale in the District of Columbia and other territory in which the Federal Government has jurisdiction, of adulterated or misbranded foods and drugs. To enforce this act it is necessary to maintain supervision of the enormous volume of foods and drugs shipped in its jurisdiction. This requires the inspection of food factories, and the examination of shipments of foods and drugs, the analysis of samples and the presentation of evidence in court. Field stations are maintained in connection with the enforcement of this Act in the following cities: Boston, Mass.; Baltimore, Md.; Buffalo, N. Y.; New York, N. Y.; Philadelphia, Pa.; Savannah, Ga.; Chicago, Ill.; Cincinnati, O.; Kansas City, Mo.; Minneapolis, Minn.; New Orleans, La.; St. Louis Mo.; Denver, Colo.; Los Angeles, Calif.; San Francisco, Calif. and Seattle, Wash.

Emergency Funds Applicable Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$27,490 have been made for physical improvements, as follows:

Constructing built-in equipment for 7 laboratory units for analysis of foods and drugs in new Federal building, Atlanta, Ga.	\$ 6,000
Constructing built-in equipment for 20 laboratory units for analysis of foods and drugs in new Federal building, Chicago, Ill.	16,350
Constructing built-in equipment for 6 laboratory units for analysis of foods and drugs in new Federal building, Philadelphia, Pa.	5,140
	<u>\$27,490</u>

This money was made available August 3, 1933 and will be expended during the fiscal year 1934 (August 3, 1933 to June 30, 1934, inclusive).

(c) Enforcement of the Tea Importation Act

Appropriation, 1932 \$ 44,030
 Appropriation, 1933 41,630
Appropriation, 1934 38,000

Estimated Obligations, 1934 35,000
Budget Estimate, 1935 36,786

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 1,786

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Total, Enf. of Tea Importation Act.....	\$36,840	\$35,000	\$36,786	+ \$1,786	- -
<u>Unobligated:</u>					
Salary reduction.....	3,422	2,360	- -	- -	- -
Working funds reduction..	1,368	620	- -	- -	- -
Total Appropriation.....	41,630	38,000	36,786	- 1,214 (1)	

(1) This decrease of \$1,214 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$2,350
 Curtailments in 1934 working funds..... - 620
 5% salary restoration..... + 1,786
-\$1,214

Work Done Under this Appropriation

To provide for expenses under the Tea Importation Act approved March 2, 1897, (U.S.C., title 21, secs. 41-50). Every consignment of tea imported into the United States is inspected both as to purity and quality. A board of tea experts determines a suitable standard for tea each year, and no tea for beverage purposes is permitted entry into the United States that falls below that standard. Before the enactment of the Tea Importation Act much low grade tea that was unfit for use was sent to the United States. Supervising tea examiners are located for the purpose of enforcing this Act at San Francisco, Calif., Seattle, Wash., Boston, Mass. and New York, N. Y.

(d) Enforcement of the Naval Stores Act

Appropriation, 1932	\$ 39,600
Appropriation, 1933	37,200
<u>Appropriation, 1934</u>	<u>32,599</u>

<u>Estimated Obligations, 1934</u>	<u>30,599</u>
<u>Budget Estimate, 1935</u>	<u>32,052</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>1,453</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Total, Enf. of Naval Stores Act.....	\$32,546	\$30,599	\$32,052	+ \$1,453	- -
<u>Unobligated:</u>					
Salary reduction.....	2,669	1,940	- -	- -	- -
Working funds reduction	1,985	60	- -	- -	- -
Total Appropriation.....	37,200	32,599	32,052	-547(1)	

(1) This reduction of \$547 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$1,940
Curtailments in 1934 working funds	60
5% salary restoration	+ 1,453
	<u>-\$ 547</u>

Work Done Under this Appropriation

To provide for the enforcement of the Naval Stores Act approved March 3, 1925, (U.S.C. title 7, secs. 91-95). This act provides that the Secretary of Agriculture "shall examine, if practicable, upon request of any interested person, any naval stores and shall analyze, classify, or grade the same on

tender of the cost thereof as required by him, under such regulations as he may prescribe. He shall furnish a certificate showing the analysis, classification or grade of such naval stores, which certificate shall be prima facie evidence of the analysis, classification, or grade of such naval stores and of the contents of any package from which the same may have been taken as well as of the correctness of such analysis, classification or grade and shall be admissible as such in any court."

The Secretary is authorized to purchase from time to time samples of spirits of turpentine and of anything offered for sale as such for the purpose of analysis, classification, or grading, and of detecting any violation of the Act. Naval Stores offered for import or export as well as naval stores that enter interstate commerce are subject to all the provisions of the Act.

(e) Enforcement of the Insecticide Act

Appropriation, 1932	\$ 225,456
Appropriation, 1933	\$212,358
Minus: Transfer to the appropriation for Food & Drugs Act	2,100
Net amount available 1933	210,258
<u>Appropriation, 1934</u>	<u>195,000</u>
<u>Estimated Obligations, 1934</u>	<u>163,300</u>
<u>Budget Estimate, 1935</u>	<u>191,517</u>
Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>8,217</u>

PROJECT STATEMENT: Enforcement of Insecticide Act

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Inspection of domestic and import shipment of insecticides and fungicides, development of cases and State cooperation.....	\$51,604	\$51,420	\$53,620	+ \$2,638	- \$438
Chemical, microscopic & bacteriologic examinations of insecticides and fungicides (including disinfectants).....	84,535	84,225	88,100	+ 3,875	- -
Testing of efficacy of fungicides and action on foliage of insecticides.....	23,181	23,095	24,130	+ 1,035	- -
Testing of efficacy of insecticides and their action on foliage.....	24,652	24,560	25,667	+ 1,107	- -
Total.....	183,972	183,300	191,517	+ 8,655	- 438(2)
<u>Unobligated:</u>					
Salary reduction.....	19,628	11,540	- -	- -	- -
Working funds reduction	6,658	160	- -	- -	- -
Total Appropriation.....	210,258 (a)	195,000	191,517	- 3,483 (1)	

(1) This reduction of \$3,483 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$11,540
Curtailments in 1934 working funds	- 160
Further reduction in working funds for 1935	- 438
5% salary restoration	+8,655
	<u>- \$ 3,483</u>

(a) Exclusive of \$2,100 transferred to the appropriation for Food and Drugs Act.

(2) The reduction of \$438 in working funds for 1935 is made in the amount for the payment of rents. This decrease has been made possible since the Administration is moving the Chicago Station headquarters to a Federal Building during the latter part of the fiscal year 1934 and this will, therefore, result in a saving in the fiscal year 1935.

Work Done Under This Appropriation

To provide for enforcing the Insecticide Act approved April 26, 1910 (U.S.C. title 7, secs. 131-134). The Insecticide Act makes illegal the manufacture, sale or transportation in interstate commerce of adulterated or misbranded insecticides and fungicides, as well as their importation and exportation. It contains definite standards to which all lead arsenates and Paris greens subject to it should conform. It provides that all insecticides and fungicides, other than lead arsenates and Paris greens, that contain inert ingredients shall bear, upon the face of the principal label of every package, a statement giving the name and quantity of each inert ingredient of the preparation with a statement that such ingredient is inert, or, instead, a statement giving the name and quantity of each active ingredient, with the percentage of the combined inert ingredients. The principal labels for insecticides, other than lead arsenate and Paris green, and for fungicides that contain arsenic or compounds of arsenic, must show the percentage of arsenic present. Any false or exaggerated claim as to the efficacy of an insecticide or fungicide constitutes a violation of the law. The act demands further that all insecticides and fungicides must be up to the standards under which they are sold and that no insecticide or fungicide shall contain any substance or substances that will injure the plant on which it may be used. In addition to the stations mentioned under the enforcement of the Food and Drugs Act, at which points work under this Act is also performed, the following special stations are maintained: Haddon Heights, N.J.; Corvallis, Oregon; and Silver Spring, Md.

Emergency Funds Applicable Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$41,510 have been made for physical improvements, as follows:

Constructing laboratory building, greenhouses, barn and garage for testing insecticides on fruit, vegetables, growing plants and animals at Beltsville, Md.	\$36,500
Landscaping, setting out fruit trees, building cement walks on land for experimental work on insecticides at Beltsville, Md.	500
Constructing built-in equipment for 7 laboratory units for analysis of insecticides and fungicides in new Federal building, Atlanta, Ga.	980
Constructing built-in equipment for 20 laboratory units for analysis of insecticides and fungicides in new Federal Bldg., Chicago, Ill.	2,680
Constructing built-in equipment for 6 laboratory units for analysis of insecticides and fungicides in new Federal building, Philadelphia, Pa.	350
Total	<u>\$41,510</u>

This money was made available August 3, 1933 and will be expended during the fiscal year 1934 (August 3, 1933 to June 30, 1934, inclusive).

Work Done Under This Appropriation

To provide for expenses in enforcing the Milk Importation Act approved February 15, 1927 (U.S.C., Supp. IV, title 21, secs. 141-149). The Milk Importation Act provides for inspection both at the source and at the ports of entry. The work of enforcing this Act, therefore, involves the supervision of the sanitary inspection of Canadian shipping plants and dairies from which milk is shipped to the United States and supervision of the physical examination and in most instances tuberculin test once a year of cattle from herds producing milk shipped to the United States, this work being carried out in collaboration with Canadian officials as authorized by the Act; it also involves the bacteriological examination and temperature tests of sufficient representative samples of all imported milk and cream, to insure compliance with the Act at ports of entry. Milk may be brought into the United States at any port along the Canadian border, but the bulk of the milk and cream comes in through ports of entry in New York and the New England states. In addition to the stations mentioned under the Enforcement of the Food and Drugs Act, a special station is maintained at Rouses Point, New York.

(g) Enforcement of the Caustic Poison Act

Appropriation, 1932	\$26,790
Appropriation, 1933	25,360
<u>Appropriation, 1934</u>	<u>23,719</u>

<u>Estimated Obligations, 1934</u>	<u>22,119</u>
<u>Budget Estimate, 1935</u>	<u>22,964</u>

Increase, Budget 1935, compared with	
Estimated Obligations, 1934	<u>845</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Total, Enf. of Caustic Poison Act.....	\$21,888	\$22,119	\$22,964	+\$1,045	- \$200(2)
<u>Unobligated:</u>					
Salary reduction.....	2,179	1,395	--	--	--
Working funds reduction	1,293	205	--	--	--
Total Appropriation.....	25,360	23,719	22,964	- 755 (1)	

(1) The reduction of \$755 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$1,395
Curtailments in 1934 working funds	- 205
Further reduction in working funds for 1935	- 200
5% salary restoration	+1,045
	<u>- \$ 755</u>

(2) The reduction of \$200 in working funds for 1935 is made in the amount for the payment of rents. This decrease has been made possible since the Administration is moving the Chicago Station quarters into a Federal Building during the latter part of the fiscal year 1934 and this will result in a saving in the fiscal year 1935.

Work Done Under This Appropriation

To provide for the expenses in connection with enforcing the Caustic Poison Act, approved March 4, 1927 (U.S.C., Supp. IV, title 15, secs. 401-411). The Caustic Poison Act imposes upon the Department the obligation of seeing that the large number of preparations containing caustic or corrosive substances and sold in interstate or foreign commerce for household use are correctly labeled with the common name of the substance, with the word "Poison", with directions for treatment in case of accidental personal injury, and with the name and place of business of the manufacturer, packer, seller or distributor. To enforce this Act, samples must be collected from the products determined by chemical analysis, and such tests made as will establish whether any or all of the ingredients are caustic or corrosive, and whether the directions given in case of injury are correct and adequate.

Authorization Covering Purchase Of Passenger Carrying Vehicles

An increase of \$3,600 is recommended in the passenger carrying vehicle purchase authorization for 1935 in order that in addition to replacement of old cars, by exchange, as shown in detail in the Budget schedule, further progress may be made in furnishing each food and drug inspector with a Government owned car.

The use of automobiles for the purpose of carrying on inspection work under five acts enforced by the Food and Drug Administration is essential. Factories, dairies, orchards, canneries, warehouses, retail establishments and other places where foods, drugs, insecticides and naval stores are manufactured, produced or distributed, must be visited and inspected. Shipments of these commodities by freight, express and trucks must be kept under surveillance. Samples must be collected and delivered for shipment to laboratories. This can be done most economically and efficiently by the use of automobiles. Automobiles can be obtained for the purpose by hiring commercial cars, by using personally owned cars of employees on the mileage basis, or

by the purchase of Government owned cars. The latter method has been found to be the most economical in the work of the Food and Drug Administration, costing on the average about 3-1/2 cents per mile. The purchase of 13 additional cars included in these estimates will reduce the use of personally owned cars which cost on the average about 5 cents per mile and also the hire of commercial cars which cost from 10 to 15 cents per mile.

The 19 cars to be exchanged are to replace cars or trucks which, during the fiscal year 1935, will have been used for the maximum number of miles of economical operation.

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ENFORCEMENT OF THE GRAIN FUTURES ACT

Appropriation, 1932	\$221,480(a)
Appropriation, 1933	218,838
Appropriation, 1934	200,000

Estimated Obligations, 1934	173,139
Budget Estimate, 1935	<u>181,498</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>8,359</u>
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PROJECT STATEMENT

Project	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Enforcement Grain Fu- tures Act	\$167,510	\$173,139	\$181,498	+ \$8,359	- - -
<u>Unobligated:</u>					
Salary reduction	16,253	10,452	- - -	- - -	- - -
Working funds reduction	35,075	16,409	- - -	- - -	- - -
Total Appropriation	218,838	200,000	181,498	-18,502(1)	

(1) This reduction of \$18,502 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$10,452
Curtailments in 1934 working funds	- 16,409
5% salary restoration	+ 8,359
	<u>- 18,502</u>

(a) Includes \$198,930 in regular appropriation for 1932 and \$22,500 supplemental appropriation for 1932 carried in Second Deficiency Act 1931, to provide for special investigations and the examination of books and records of brokerage houses outside of Chicago, Ill.

Work Done Under this Appropriation

The work under the appropriation for the enforcement of the Grain Futures Act, approved Sept. 21, 1922 (U.S.C., title 7, secs. 1-17) requires the control and supervision of future trading in grain on 14 boards of trade and

exchanges designated as contract markets by the Secretary of Agriculture. This work is carried on through 6 field offices located at Chicago, Ill., Minneapolis, Minn., Kansas City, Mo., New York, N. Y., Seattle, Wash., and Sacramento, Calif., and involves: (1) observation of trading operations, (2) compiling and publishing daily reports on volume of trading and amounts of open interest, (3) examination of books and records of clearing members for the purpose of discovering and preventing irregularities, (4) examination of market news and gossip items to prevent the dissemination of false and misleading crop and market information, (5) maintaining a daily check on accounts of large traders, (6) investigation of complaints, and (7) special studies and investigations relating to economic functions and general utility of the future markets for hedging and merchandising purposes.

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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

General Statement

In order to provide better coordination and more effective and economical direction of the Department's research and control work on insect pests and the eradication and control work on plant diseases this Budget provides for the consolidation of the Bureaus of Entomology and Plant Quarantine and those activities heretofore conducted by the Bureau of Plant Industry dealing with the control and eradication of the following plant diseases: Citrus canker, phony peach, Dutch elm disease, white pine blister rust, and stem rust of grains. Supervision of these latter activities were administratively assigned to the Chief of the Bureau of Entomology by order of the Secretary of Agriculture in November 1933.

To effect these changes in the appropriations for the fiscal year 1935 it has been necessary to propose some changes in language. Most of these changes are required because of the proposed consolidations and only alter the arrangement of authority included in the Act making appropriations for the fiscal year 1934. A few minor changes are, however, proposed in the interest of simplification and orderly presentation of subject matter.

The tabulation on the next page is a comparative statement of the funds available for the work of the combined unit from the fiscal year 1932 forward. To permit of more accurate and convenient comparison, this statement, and the explanatory notes which follow, show activities for 1932, 1933 and 1934 under the various sub-appropriations on the same basis as that proposed for the fiscal year 1935. The explanatory notes also are prepared on this basis, for the sake of clarity. The amounts given in these statements for certain of the appropriation items therefore do not in all instances agree with the summary on page 258 of the Committee print. The summary in the Committee print was based on the amounts included in the Act making appropriations for the fiscal year 1934. The differences and totals are reconciled as follows:

1934 Apprn. (As per tabulation on next page).....	\$5,039,415
" " (As per Committee print)....	\$4,372,482
" " Committee print foot- notes, re Bureau of Plant Industry items.....	+ 622,815
	<u>4,995,297</u>
Difference.....	\$ 44,118

Reconciliation:

Portion of Bureau of Plant Industry "Blister Rust" retained in Plant Industry and trans- ferred to Bureau of Plant Industry "Forest Pathology"	+ 13,882
"Dutch Elm Disease Eradication" eliminated from estimates on account of M.R.A. allot- ment	- 3,000
"Fruit Insects" - reappropriation of 1931 item for Mediterranean Fruit Fly.....	<u>- 55,000</u>

Bureau of Entomology & Plant Quarantine*

Bureau Previously Conducting Activity		Appropriations for Fiscal Year			Expenditure Program	Budget Estimates 1935		Total
Ent.	P.Q.	Subappropriation	1932	1933	1934	Base	5% Salary Adjust-ment	
x	x	Administration-	\$222,000	\$222,868	\$206,704	\$141,440	\$7,669	\$149,109
x	x	Fruit Insects Inv.-	-	456,152(a)	425,500(a)	306,139	14,620	320,759
	x	Japanese Beetle Control	-	350,000	349,837	193,340	9,670	203,010
	x	Mexican Fruit Fly Control	-	122,080	114,197	96,983	4,669	101,652
	x	Citrus Canker Erad.	-	40,000	25,000	11,706	593	12,299
	x	Phony Peach Erad.	-	97,000	52,659	43,177	2,285	45,462
	x	Date Scale Erad.	-	65,460	27,925	26,173	1,116	22,768
x		Forest Insects Inv.	-	253,074	194,270	148,735	6,397	145,655
	x	Gipsy & Brown-tail Moth Cont.	-	643,580	408,388	139,595	-	-
	x	Blister Rust Control	-	466,200	370,657	209,887	-	-
	x	Dutch Elm Disease Erad.	-	13,332(b)	3,000	3,000	-	-
x		Truck Crop & Garden Insects	-	512,877	414,100	289,562	13,386	303,048
x		Cereal & Forage Insects Inv.	-	603,493	478,140	226,113	10,848	236,761
	x	European Corn Borer Control	-	950,000	40,000	28,922	1,489	30,411
	x	Barberry Eradication	-	377,140	180,722	126,918	-	-
x		Cotton Insects Inv.	-	298,820	175,000	132,400	5,119	114,763
	x	Pink Bollworm Control	-	497,000	379,804	315,238	11,020	254,959
	x	Thurberia Weevil Control	-	34,500	3,275	2,449	135	2,584
x		Bee Culture Inv.	-	73,920	65,000	48,030	2,165	45,670
x		Ins. Affecting Man & Animals	-	193,827	148,300	115,750	5,200	109,600
x		Insect Pest Survey & Identif.	-	197,930	162,000	131,500	6,682	121,616
x		Control Investigations	-	54,860	43,867	38,850	1,838	40,738
	x	Transit Inspection	-	42,800	30,229	25,095	1,324	26,419
	x	Foreign Plant Quarantines	-	799,130	685,000	568,550	27,056	536,516
	x	Certification of Exports	-	30,300	18,558	15,188	893	16,120
x		Household & Stored Product Ins.	(c)	35,579(d)	42,300(d)	-	-	-
Total			7,583,142	5,678,725	5,039,415	2,705,895	134,024	2,839,919

* This statement includes all activities estimated for under the heading "Bureau of Entomology and Plant Quarantine for 1935" without regard to their organization placement during 1932-3-4.

(a) Includes amounts reappropriated for investigations on Mediterranean Fruit Fly.

(b) In Second Deficiency Appropriation, 1931. (c) Entire amount included in other subappropriations, on same organization basis as 1933, 1934, and 1935. (d) Estimated savings and unobligated balances only. Figures for obligations included in other subappropriations, as indicated in green sheets.

Note. Appropriations for 1932, 1933 and 1934 are stated on a basis comparable with estimate set-up for 1935. Where the amounts stated differ from the facial amount of an appropriation as shown by the Act or Committee Print, the elements which go to build up or divide an appropriation item for 1932, 1933 or 1934 are set forth in the transfer computations set forth at end of each Budget schedule involved.

(a) General Administrative Expenses

Appropriation, 1932.....	\$222,000
Appropriation, 1933.....	222,868
<u>Appropriation, 1934.....</u>	<u>206,704</u>

<u>Estimated Obligations, 1934.....</u>	<u>165,624</u>
<u>Budget Estimate, 1935.....</u>	<u>149,109</u>

Decrease, Budget 1935, compared with Estimated Obligations, 1934.....	<u>16,515</u>
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PROJECT STATEMENT

Projects	: 1933	: 1934	: 1935	: Increase or Decrease	: 5% salary : Working
	:	:(Estimated):	:(Estimated):	: restoration:	: Funds
<u>Obligated:</u>	:	:	:	:	:
General Administration	:\$ 192,244:	\$ 165,624	:\$ 149,109	: + \$ 7,669	: - \$24,184(2)
<u>Unobligated:</u>	:	:	:	:	:
Salary reduction.....	19,997:	12,128	: - - -	: - - -	: - - -
Working funds reduction:	10,627:	28,952	: - - -	: - - -	: - - -
<u>Total Appropriation.....</u>	<u>222,868:</u>	<u>206,704</u>	<u>: 149,109</u>	<u>: -57,595 (1)</u>	

(1) This reduction of \$57,595 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....	- \$ 12,128
Curtailments in 1934 working funds.....	- 28,952
Further reductions in working funds for 1935 (General Administrative Expenses).....	- 24,184
5% salary restoration.....	+ 7,669
	<u>- 57,595</u>

The reduction of \$24,184 in working funds for 1935 includes:

- (2) Savings possible by the consolidating of administrative, fiscal and related activities heretofore carried on in separate offices of the Bureaus of Entomology and Plant Quarantine. The abolishment of twelve positions is contemplated. A reduction of approximately \$5,000 also has been made in the appropriation of the Bureau of Plant Industry for general administration.

Change in Language

The language proposed in the Budget estimate for this item is identical with that carried for the same purposes for the Bureaus of Entomology and Plant Quarantine in the Act making appropriations for the fiscal year 1934 with the exception that words "in the District of Columbia" have been eliminated in the interest of simplification.

Work Done Under This Appropriation

This appropriation provides for the following functions all of which are essential to the effective and economical administration of the Bureau:

- a. Determination of policies;
- b. General Administrative supervision of all Departmental and field activities;
- c. Business operations;
- d. Approval and editing of publications;
- e. Preparation and distribution of general information including reports and publications;
- f. Maintenance of a comprehensive library of literature on entomology;
- g. Handling of general information relating to Federal quarantine and the preparation of cases on quarantine violations.

(b) Fruit Insects

Appropriation, 1932. \$ 540,939
 Appropriation, 1933. 456,152 (a)
Appropriation, 1934. 425,500 (a)

Estimated Obligations, 1934. 321,195
Budget Estimate, 1935. 320,759

Decrease, Budget, 1935, compared with
 Estimated Obligations, 1934 436

PROJECT STATEMENT

	1933	1934 (Estimated)	1935 (Estimated)	Increase or decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Apple Insects - - - - -	\$ 38,171	\$ 43,090	\$ 45,850	+ 2,760	- - -
Peach Insects - - - - -	48,089	39,750	41,600	+ 1,850	- - -
Grape Insects - - - - -	5,036	5,350	5,565	+ 215	- - -
Nut Insects - - - - -	32,019	17,000	17,680	+ 680	- - -
Dried Fruit Insects - - -	12,221	14,300	13,639	+ 639	-1,301 (2)
Subtropical Fruit Insects -	44,236	35,870	38,030	+ 2,160	- - -
Fruit Flies - - - - -	60,207	49,805	52,135	+ 2,330	- - -
Insecticidal Value of Oils	9,700	4,630	4,800	+ 170	- - -
Japanese & Asiatic Beetles	135,061	111,400	101,461	+ 3,816	-13,755 (3)
Blueberry Maggot - - - -	2,400	- - -	- - -	- - -	- - -
<u>Total - - - - -</u>	<u>387,140</u>	<u>321,195</u>	<u>320,759</u>	<u>+ 14,620</u>	<u>-15,056</u>
<u>Unobligated:</u>					
Salary reduction - - - -	37,024	20,325	- - -	- - -	- - -
Working funds reduction -	31,988	83,980	- - -	- - -	- - -
<u>Total Appropriation - - - -</u>	<u>456,152</u>	<u>425,500</u>	<u>320,759</u>	<u>- 104,741 (1)</u>	

1) This reduction of \$104,741 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - - - - -	\$ - 20,325
Curtailment in 1934 working funds - - - - -	- 83,980
Further reduction in working funds for 1935 - - - - -	- 15,056
5% salary restoration - - - - -	+ 14,620
	<u>-104,741</u>

2) Includes \$55,000 reappropriated from 1931 Appropriation.

The Reduction of \$15,056 in working funds for 1935 includes:

(2) A decrease of \$1,301 in the project for dried fruit insects. This decrease contemplates a reduction in clerical help required in general administration of research and is possible by regrouping of investigations on insects affecting stored products.

(3) A decrease of \$13,755 for research on the Japanese beetle. This decrease contemplates: (a) The discontinuance of surveys in the infested areas to determine the relative abundance of the Japanese beetle and its increase in the area where it has been established for considerable periods; (b) the discontinuance of studies on climate to aid in appraising of the possible importance of the beetle in different uninfested areas of the United States; (c) the discontinuance of investigations on methods of increasing the effectiveness of traps and baits; (d) the discontinuance of examinations of plots of treated turf to determine the length of time various treatments will be effective; (e) the discontinuance of studies on methods of preventing beetles from depositing eggs in nurseries; (f) the discontinuance of studies to determine the effect of native parasites and predators of the beetle; and (g) curtailment of work on the colonization of imported parasites.

Change in Language

The change of language proposed in the Budget estimate eliminating the words "and shade tree" from the title and the words "shade tree, hardy shrubs, and including research on the Asiatic and Japanese beetles, and the Parlatoria date scale, and fruit flies, \$366,000, together with \$55,000 of the unexpended balance of the appropriation for Mediterranean fruit fly contained in the Agricultural Appropriation Act for the fiscal year 1931" is explained as follows:

(a) The change in title and the elimination of the words referring to investigations on insects affecting shade tree and hardy shrubs contemplates grouping research on these pests with that carried on under the item "Forest Insects." Many of the insects which attack shade trees are the same as those which attack forest trees.

(b) The reference to specific insects such as the Japanese and Asiatic beetles, Parlatoria date scale and fruit flies is eliminated in the interest of simplification and should avoid possible confusion with control or regulatory activities on these pests conducted under other items.

(c) The elimination of the words authorizing the reappropriation of portion of an unexpended balance is proposed since amount of the estimate provides funds for investigations on fruit flies.

Work Done Under This Appropriation

This appropriation provides for investigations on insects affecting fruit, fruit trees, nuts, grapes, and related small fruits having their seeds internally such as blueberries, cranberries, etc. These activities include research to develop methods for the control of such pests as the Japanese and Asiatic beetles, various species of fruit flies, the codling moth and other pests of apples, Oriental fruit moth, plum curculio and other pests of peaches, grapeberry moth and other pests of grape and numerous insect pests attacking nuts and dried fruits and various pests of subtropical fruits such as oranges, dates, etc.

One of the more important activities carried on under this appropriation is concerned with the development of methods of control of such pests of fruits as codling moth, grapeberry moth, plum curculio, etc., so as to eliminate injurious spray residues. The importance of experiments to develop methods of controlling certain species of fruit flies which occur in countries outside of the United States is emphasized by the recent capture at Key West, Florida, and in the Lower Rio Grande Valley of Texas, of specimens of foreign fruit flies which are potential pests of major importance. The rapid spread of the Oriental fruit moth, an introduced pest which attacks many kinds of deciduous fruits and the absence of fully effective artificial controls emphasized the need for continuing investigations on it including importation and distribution of its parasites.

The investigations on the numerous important insect enemies of fruits, nuts, etc., are coordinated with or carried on in cooperation with various State agencies. Field laboratories are located at: Wenatchee, Washington; Fresno and Whittier, California; Brownwood, Texas; Shreveport, Louisiana; Orlando, Florida; Fort Valley and Albany, Georgia; Vincennes, Indiana; Takoma Park, Maryland; and Moorestown, New Jersey.

Emergency Funds Applicable Under this Heading

- (1) \$14,450 from the Federal Emergency Administration of Public Works, for physical improvements at the following two stations:
 - (a) \$14,100 for the construction and repairing of a greenhouse, storage sheds, insectaries at Moorestown, N. J. for use in connection with investigations on the Japanese beetle.
 - (b) \$350 for the construction of a temporary insectary at Albany, Georgia to be used in connection with investigations on pecan insects.

(2) \$1,200 from the Agricultural Adjustment Administration. --The Agricultural Adjustment Administration in the interest of the expansion of the markets and reduction of surplus for certain grades of tobacco, has allotted \$1,200 for the testing of certain insecticides made of tobacco by-products to determine their effectiveness for the control of the codling moth. This money supplements experimental work carried on at the laboratory at Takome Park, Md., and the laboratory at Vincennes, Indiana.

(3) Civil Works construction projects.--The Civil Works Administration has authorized a project to remodel and alter Government-owned laboratories and insectaries at Moorestown, N. J. These structures were used in connection with investigations on the Oriental fruit moth and the Japanese beetle. The estimated cost of this work is \$20,000. It provides employment for approximately 114 men and authorizes expenditures for items other than labor amounting to \$5,500.

(c) Japanese Beetle Control

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Appropriation, 1932 \$ 445,000
 Appropriation, 1933 350,000
Appropriation, 1934 349,837

Estimated Obligations, 1934..... 279,030
Budget Estimate, 1935..... 203,010

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934..... 76,020

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Supervision of nurseries and greenhouses.....	\$156,020	\$ 173,955	\$ 164,410	+\$7,836	-\$17,381 (2)
Nursery and greenhouse scouting.....	17,034	11,535	11,800	+ 561	- 296 (3)
Trapping.....	61,917	42,930	---	---	- 42,930 (4)
Trapping control.....	19,919	4,807	---	---	- 4,807 (5)
Quarantine enforcement, vehicle inspection.....	23,375	22,456	25,000	+ 1,186	+ 1,358 (6)
Quarantine enforcement, farm products inspection.....	22,631	15,376	1,800	+ 87	- 13,663 (7)
Soil treatment.....	10,081	7,971	---	---	- 7,971 (8)
Total.....	311,027	279,030	203,010	+ \$9,670	- 85,690
<u>Unobligated:</u>					
Salary reduction.....	29,363	17,625	---	---	---
Working funds reduction.....	9,610	53,182	---	---	---
Total Appropriation.....	350,000	349,837	203,010	- \$146,827	(1)

(1) This reduction of \$146,827 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... -\$17,625
 Curtailments in 1934 working funds..... - 53,182
 Further reduction in working funds for 1935, as
 follows:
 Supervision of nurseries and greenhouses.. -\$17,381
 Nursery and greenhouse scouting..... - 296
 Trapping..... - 42,930
 Trapping control..... - 4,807
 Quarantine enforcement, vehicle inspection.+ 1,358
 Quarantine enforcement, farm products insp. - 13,663
 Soil treatment..... - 7,971
 5% salary restoration..... + 9,670
-146,827

The reduction of \$85,690 in working funds for 1935 includes:

(2) A decrease of \$17,381 for supervision of nurseries and greenhouses. In the last four years 233,021,180 nursery plants, many of which had roots in soil, and 39,703 car lots of sand potting soil and its constituents were certified for shipment outside the regulated area. These nursery plants originated from the 1,654 nurseries located within the regulated area and were shipped to every State and the District of Columbia. The sanitary measures employed under Federal supervision which served as a basis for certification form the sole protection against the distribution of the Japanese beetle with these materials.

The reduction in this appropriation will necessitate a corresponding reduction in the amount of supervision given to sanitary measures required in these nurseries as a basis for this Federal certification.

(3) A decrease of \$296 for nursery and greenhouse scouting. Classification of nursery and greenhouses in the quarantined area is based on the determination by Federal inspection as to the presence or absence of the Japanese beetle in the individual premises. The certification for movement out of the quarantined area involves the different procedures depending upon this classification. The reduction in this item will involve a decrease in the amount of inspection to determine whether or not the nurseries and greenhouses contain the Japanese beetle.

(4) A decrease of \$42,930 in trapping. The use of trapping for determining the presence or absence of Japanese beetle in a given area supersedes; the use of other forms of scouting. The determination of the area to be placed under regulation and the information furnished to the various States as to the boundaries of infested areas is obtained by the use of traps. In order to meet the reductions it will be necessary to discontinue this program for 1935.

(5) A decrease of \$4,807 in trapping control. Discontinued. Trapping for control of the Japanese beetle in isolated areas was reduced to a very small basis in 1934 because of reduced appropriations. This item is now being discontinued. The area in which most work had been done was Erie, Pennsylvania, where a cooperative program with the State of Pennsylvania had been carried on for some years.

(6) An increase of \$1,358 for quarantine enforcement, vehicle inspection. This increase is due to a mathematical error in distribution of the subappropriation 5% salary restoration item among the projects.

(7) A decrease of \$13,663 for quarantine enforcement, farm products inspection. During the last four years 27,072,997 packages of fruits and vegetables subject to Japanese Beetle infestation were certified for shipment. Actual inspection is made of these products, certification being refused if infestation is found, in which event local market outlets must be used. The reduction in this item will bring about a proportionate decrease in the inspection facilities.

(8) A decrease of \$7,971 for soil treatment. Soil treatment, i.e., poisoning of soil to prevent the development of Japanese beetle larvae, has been employed in cooperation with various States to control or eradicate isolated infestations in areas not hitherto known to be infested. This work will be discontinued. With the discontinuance of this item the control program which has been carried on in the States of Pennsylvania, Maryland, Virginia, Massachusetts and Rhode Island will be terminated.

Work Done Under This Appropriation

The money appropriated under this item is used for the enforcement of the quarantine to prevent spread of the Japanese beetle. The beetle is present in fourteen eastern States and the District of Columbia. The insect is carried in the grub stage in soil on the roots of nursery stock. One of the important means of prevention of spread, therefore, is the inspection and certification of plant products moving out of nurseries in the infested area.

More than thirty-four million plants were thus inspected and certified during the past fiscal year. It is necessary in many instances to treat such nursery stock and this treatment is supervised by the Department. Repressive measures are carried on at certain isolated points where incipient infestations are located. Scouting is necessary to determine the presence of the beetle in localities outside the regulated area so that quarantine measures may be properly invoked. Other products besides nursery stock are regulated and supervision of fumigation of certain fruits is required, together with inspection and certification of farm products such as sweet corn and similar articles. Nearly four million packages of such products were inspected and certified during the last fiscal year and sterilization as a basis for certification was applied to four thousand car-loads of sand and earth destined for use in nurseries.

Emergency Funds Applicable Under This Heading

The following amounts of money were allotted for physical improvements on the Japanese beetle project, from Public Works Emergency Funds.

Federal Project No. 3, Repair roof on warehouse of Japanese beetle project at New Cumberland, near Harrisburg, Pa.	\$7,400
Federal Project No. 4, Resurfacing road from property line of U.S. Army reservation to Japanese beetle warehouse at New Cumberland, near Harrisburg, Pa.	2,500
Federal Project No. 5, Reconstruct concrete loading platform at warehouse of Japanese beetle project, at New Cumberland, near Harrisburg, Pa.	2,000
Federal Project No. 6, Reconstruct large service door of warehouse of Japanese beetle project at New Cumberland, near Harrisburg, Pa.	200
Total.....	12,100

Work on all four of these projects has been completed.

(d) Mexican Fruit Fly Control

Appropriation, 1932 \$124,960
 Appropriation, 1933 122,080
Appropriation, 1934 114,197

Estimated Obligations, 1934 \$ 96,983
Budget Estimate, 1935 101,652

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 4,669

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Grove and Packing House Inspection....	\$ 63,765	\$85,583	\$89,745	+\$4,162	---
Certification for Removal or Shipment of Fruit.....	800	800	916	+ 116	---
Spraying and Control in Mexico	2,600	2,600	2,747	+ 147	---
Spraying and Control in Texas.....	37,516	4,500	4,580	+ 80	---
Road Stations.....	3,500	3,500	3,664	+ 164	---
Total	102,181	96,983	101,652	+ 4,669	---
<u>Unobligated:</u>					
Salary reduction.....	9,354	6,236	---	---	---
Working funds reduction	4,545	10,988	---	---	---
Total Appropriation....	122,080	114,197	101,652	- 12,545(1)	

(1) This reduction of \$12,545 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$ 6,236
 Curtailments in 1934 working funds - 10,988
 5% salary restoration + 4,669
 - 12,545

Work Done Under This Appropriation

The Mexican fruit fly was found in the Lower Rio Grande Valley of Texas in the crop season of 1927. Eradication measures were immediately undertaken by the United States Department of Agriculture in cooperation with the State of Texas. While these efforts were apparently successful, there have been recurring infestations, due possibly in some instances at least, to reinfestation which came into Texas from Mexico. This insect exists at the present time just across the Rio Grande River from Brownsville, Texas. The constant shipping to Mexican towns along the border of infested fruits from the interior of Mexico presents a continual menace to the fruit cultures on this side of the line.

A continuance of these activities is necessary to prevent the spread of the Mexican fruit fly from the infested area in the Lower Rio Grande Valley in Texas, to eradicate it from that area, and to eliminate so far as possible the infestation existing in the small area across the Rio Grande River from Brownsville, Texas, in order to minimize the risk of reintroduction of the pest.

During the season grove inspections are made once in thirty days as that is about the time required for development of the larvae of the Mexican fruit fly. The States outside the infested area susceptible to infestation depend on the Federal authorities to prevent the movement of commodities which might be detrimental to the fruit culture outside the infested area. If infestations can be found before they build up to serious proportions eradication efforts are more efficient, less expensive, and result in destruction of less fruit for the growers.

This situation has been seriously aggravated by the hurricane of September 4, 1933. Between ten and twelve thousand carloads of citrus fruit were blown from the trees. Relieved of this load unusually early blooming is likely to result which would be followed by so called "off bloom" fruit. This fruit matures during the non-host fruit season and its detection and destruction forms no small part of the work of the inspection force during the season. There are more than eight million citrus trees of all ages in the three counties of Cameron, Hidalgo and Willacy, and of this number more than half have reached bearing age. The protection afforded the other states lies in the requirement of Federal certification. Certificates are not issued, except on fruit, the growers, packers, and shippers of which have complied with certain regulations and sanitary precautions.

Cooperation is maintained with Texas, which State, in the aggregate, is contributing during 1934 an amount of \$25,713 to the work.



(e) Citrus Canker Eradication

Appropriation, 1932	\$40,000
Appropriation, 1933	30,000
Appropriation, 1934	25,000

Estimated obligations, 1934	11,706
Budget Estimate, 1935	<u>12,299</u>

Increase, Budget 1935, compared with Estimated Obligations, 1934	<u>593</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Citrus Canker Eradication.....	25,471	11,706	12,299	+ 593	- - -
<u>Unobligated:</u>					
Salary reduction	2,243	790	- - -	- - -	- - -
Working funds re- duction.....	2,286	12,504	- - -	- - -	- - -
Total Appropriation.	30,000	25,000	12,299	-12,701(1)	

(1) This reduction of \$12,701 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$790
Curtailments in 1934 working funds	-12,504
5% salary restoration	+ 593
	<u>-12,701</u>

Change in Language

The elimination of the words authorizing "investigations of the nature and means of communication of the disease" provided in the Budget estimate is recommended as such investigations as are necessary will be carried on by the Bureau of Plant Industry.

The elimination of the words "the payment of such expenses and the employment of such persons and means, in the city of Washington and elsewhere, and" is recommended in the interest of simplification since the necessary authority is provided in the introductory paragraph or preamble.

The elimination of the words "in the discretion of the Secretary of Agriculture" proposed in the Budget estimate will make it necessary to secure contributions in the amount of the appropriation before any expenditure can be made. This may prevent prompt action in case of an outbreak; and may, unless all sections are equally interested and prompt, prevent or delay work in States or localities which have provided a fair and adequate proportion of funds required for work in their section.

Work Done Under This Appropriation

In cooperation with Louisiana and Texas, the Bureau conducts a campaign for the eradication of citrus canker, a bacterial disease of citrus fruits and trees, by the thorough inspection of nurseries and citrus groves, formalin treatment of infected soil, protective spraying of groves exposed to infection, and destruction of diseased trees. As a result of the vigorous campaign, the disease has been practically eliminated from the commercially important areas, but scattered infections still occur sporadically.

Each State is now maintaining a close reinspection of all citrus properties and this will be continued for several years because of the extreme infectiousness of the disease, as scattered infections in dooryard plantings outside of commercial districts have been found in Texas and Louisiana.

Cooperation is maintained with the States of Louisiana and Texas, which States are contributing in the aggregate an amount of \$20,000 to the work during the fiscal year 1934.

Emergency Funds Applicable Under This Heading

The work on the eradication of Citrus Canker from Texas has been augmented by a Federal Civil Works project. For expenses necessary in administration and supervision of this activity, the Civil Works Administration has transferred \$1,250. This work carried on under this allotment will be completed during the fiscal year 1934. It is estimated that this project, which is carried on in cooperation with States and local agencies, will cost \$18,000 and provide employment for 92 men with expenditures for items other than labor in the amount of \$2,635.

(f) Phony Peach Eradication

Appropriation, 1932 \$97,000
 Appropriation, 1933 61,480
Appropriation, 1934 52,659

Estimated Obligations, 1934 43,177
Budget Estimate, 1935 45,462

Increase, Budget 1935, compared with
Estimated Obligations, 1934 2,285

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	<u>Increase or Decrease</u> 5% Salary : Working Restoration : Funds	
<u>Obligated:</u>					
Phony Peach Eradication	\$56,020	\$43,177	\$45,462	+\$2,285	- - -
<u>Unobligated:</u>					
Salary reduction.....	4,980	3,047	- - -	- - -	- - -
Working funds reduction	480	6,435	- - -	- - -	- - -
<u>Total Appropriation</u>	<u>61,480</u>	<u>52,659</u>	<u>45,462</u>	<u>- 7,197 (1)</u>	

(1) This reduction of \$7,197 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$3,047
 Curtailments in 1934 working funds - 6,435
 5% salary restoration +2,285
- 7,197

Change in Language

The elimination of the words "conducting such investigations of the nature and means of communication of the disease of peach trees known as phony peach" is recommended as such investigations as may be necessary will be carried on by the Bureau of Plant Industry.

The insertion of the words "and/or prevention of spread" and the words "including the certification of products out of the infested areas to meet the requirements of State quarantines" is recommended to provide authority for work

authorized and provided for under the appropriations made to the Bureau of Plant Quarantine in the Act for the fiscal year 1934.

The elimination of the words "the payment of such expenses and the employment of such persons and means, in the city of Washington and elsewhere, and" is recommended in the interest of simplification since the necessary authority is provided in the introductory paragraph or preamble.

The elimination of the words "in the discretion of the Secretary of Agriculture" proposed in the Budget estimate will make it necessary to secure contributions in the amount of the appropriation before any expenditure can be made. This may prevent prompt action in case of an outbreak; and may, unless all sections are equally interested and prompt, prevent or delay work in States or localities which have provided a fair and adequate proportion of funds required for work in their section.

Work Done Under This Appropriation

In cooperation with the State Board of Entomology of Georgia and informal cooperation with officials of other states, the Bureau conducts a campaign for the eradication of the phony disease of peaches, an infectious virus confined to the root system resulting in dwarfed growth of the tree and abnormally small and poorly flavored fruit. Inspections are made in all States where the disease has been found to occur. Infected trees are being removed by the State authorities. Scattered infections have been found in the States of Alabama, Florida, Georgia, Arkansas, Illinois, Oklahoma, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas. Continuation of the work is necessary to prevent the spread of the disease from the area now infected. Where certification of nursery stock is required by State quarantine regulations as condition of interstate movement, the Department is co-operating in the performance of inspection work.

Emergency Funds Applicable Under This Heading

The work on the eradication of Phony Peach has been augmented by the establishment of a Federal Civil Works project to aid in locating and eliminating wild peach trees and abandoned peach orchards in Georgia and Alabama. For necessary expenses for travel in connection with the supervision of this activity the Civil Works Administration has transferred \$3,750. The work is carried on in cooperation with State and local agencies at an estimated cost of \$200,000 allocated as follows:

State	Estimated No. of Men	Allotment for Ex- penses other than Labor	Estimated Cost
Dist. Columbia	3	\$ 400	\$ 2,300
Georgia	986	11,834	175,034
Alabama	122	2,466	22,666
Totals	1,111	14,700	200,000

(g) Date Scale Control

Appropriation, 1932 \$65,460
 Appropriation, 1933 38,615
Appropriation, 1934 27,925

Estimated Obligations, 1934 26,178
Budget Estimate, 1935 22,768

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 3,410

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
Obligated:					
Eradication.....	\$30,316	\$23,178	\$19,600	+\$948	-\$4,526(2)
Scouting.....	4,000	3,000	3,168	+ 168	- - -
Total.....	34,316	26,178	22,768	+ 1,116	- 4,526
Unobligated:					
Salary reduction.....	3,406	1,747	- - -	- - -	- - -
Working funds reduction	893	- - -	- - -	- - -	- - -
Total Appropriation....	38,615	27,925	22,768	- 5,157 (1)	

(1) This reduction of \$5,157 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$1,747
 Reduction in working funds for 1935:
 (\$4,526 for Eradication) - 4,526
 5% salary restoration +1,116
 - 5,157

The reduction of \$4,526 in working funds for 1935 includes:

(2) A decrease of \$4,526 for eradication. This decrease on date scale eradication requires a corresponding reduction in eradication work. This work has now reached a point where the infestations found are not only infrequent but they are exceedingly light in character being caused by a few individual insects which may have crawled out from the leaf bases where the few remaining infestations have carried over to the leaves where they become visible.

Intensive inspection for such infestations and immediate treatment, sometimes including treatment of surrounding trees, is necessary. This work accompanies the inspection work and is a part of it. A reduction in this item requires a reduction in the frequency with which these inspections can be made.

Work Done Under This Appropriation

The date scale work is going ahead with fewer and smaller infestations being found every year. Because of the possibility that infestation may persist for considerable periods of time under the leaf bases where they are not visible without cutting through the layers of fibre which cover them, the careful inspection of date plantings can not safely be eliminated until sufficient time has elapsed to insure that the scale if present would have crawled out on the leaves where they can be seen. For this reason careful inspections must be made over the entire area and the reduction made in 1934 has been absorbed by lengthening the period between these inspections.

Cooperation is maintained with Arizona and California, which States contributed in the aggregate an amount of \$16,400 to the work.

Appropriation, 1932 \$ 253,074
 Appropriation, 1933 \$ 222,436
Appropriation, 1934 194,270

Estimated Obligations, 1934 \$ 148,735
Budget Estimate, 1935 \$ 145,655

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934. . . . \$ 3,080

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Forest insects.....	\$98,747	\$ 85,938	\$ 90,000	+\$ 3,739	+\$ 323 (2)
Introduced forest insects..	70,742	52,997	55,655	+ 2,658	- - -
Shade-tree and hardy shrub insects.....	9,659	9,800	- - -	- - -	-9,800 (3)
Total.....	188,058	148,735	145,655	+ 6,397	-9,477
<u>Unobligated:</u>					
Salary reduction.....	17,051	9,443	- - -	- - -	- - -
Working funds reduction....	17,347	36,092	- - -	- - -	- - -
Total Appropriation.....	222,436	194,270	145,655	- 48,615 (1)	

(1) This reduction of \$48,615 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....\$ - 9,443
 Curtailment in 1934 working funds..... -36,092
 Further reduction in working funds for 1935..... - 9,477
 5% salary restoration..... + 6,397
-48,615

The reduction of \$9,477 in working funds for 1935 includes:

(2) An apparent increase of \$323 for work on forest insects. This increase is due to a misdistribution of the 5% salary restoration among projects.

(3) An actual reduction of \$9,800 which contemplates the abandonment of the project concerned with insects affecting shade trees and hardy shrubs. The activities conducted under this project are concerned largely with giving other Federal agencies, property owners, city officials, park superintendents, etc., in response to inquiries, advice which aids them in protecting shade trees from insect pests.

The elimination of "V" and the insertion of "VI" is to correct the citation to the code.

Work Done Under this Appropriation

This appropriation provides for investigations of insects injurious to forests and forest products, the determination of methods of control for such insects, the planning and direction of the technical phases of campaigns against various outbreaks over large forested areas carried on by Federal and State agencies or private owners. One of the important phases of the work is service rendered for bark beetle control in a cooperative way with the Federal agencies, such as Forest Service and National Park Service, responsible for administering timber lands. In this cooperative work this appropriation provides for the surveys to determine the heavily infested areas and for the direction of the technical features of the control work. Such advice is also extended to timber owners and organizations both with respect to timber stands and recreational areas. These activities have played a very important part in improving the standards for control of insect pests on shade trees required from commercial concerns and have saved property owners and local communities considerable sums.

A number of different lines of investigations to determine more effective methods of controlling forest insect pests are under way, among which are included studies on the management of forested areas to prevent losses from such pests as the white pine beetle, locust borer, spruce budworm, southern pine beetle, etc. The research and advisory phases of control work on forest insects are carried on in cooperation with Federal and State Foresters and headquartered at the regional forest offices or at the forest experiment stations.

Funds under this appropriation are also used for investigations on important introduced insect pests of forest trees. Some of these pests are: (a) The European pine shoot moth, which is becoming widely established in the northeast and is particularly destructive to pines set out in the reforestation water sheds and denuded lands; (b) the beech scale now established in Maine, New Hampshire and Vermont, a pest which when associated with a fungus, threatens the destruction of our valuable native beech; (c) the birch leaf miner, an insect particularly destructive to white birch which is spreading rapidly through Maine, New Hampshire and Vermont. Investigations on these and other introduced pests include studies to determine methods of control by artificial means including the importation, colonization and distribution of parasites which may aid in their control.

Emergency Funds Applicable
Under this Heading

The work under this activity has been augmented by an allotment of \$20,000 from the Emergency Conservation fund. This allotment was made available August 26, 1933 and will be expended during the fiscal year 1934. It provides funds to carry on certain necessary investigations of an emergic nature to secure information which should permit the Civilian Conservation Camps to do more effective work on the control of insect enemies of our forests.

Funds are allotted among five activities as follows:

Surveys and investigations on the beech scale....	\$5,000
Investigations on insect vectors of the Dutch elm disease.....	7,000
Investigations on the locust borer.....	2,500
Experiments on the control of bark beetles in the Rocky Mountain region--this work deals largely with tests to determine the efficacy of control by the injection of poisons	3,000
Experiments on bark beetle control in California	<u>2,500</u>
	<u><u>20,000</u></u>

(i) Gipsy and Brown-tail Moths

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Appropriation, 1932\$648,580
 Appropriation, 1933 400,000
Appropriation, 1934 408,338

Estimated Obligations, 1934 139,595
Budget Estimate, 1935 - - - (a)

(a) No Budget estimate is submitted for the regular appropriation for 1935, as the Budget schedules provide for the use of funds for this purpose from the allotment which has been made for gipsy and brown-tail moth control by the Federal Emergency Administration of Public Works.

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Inspection and Certifi- cation.....	\$ 134,652	\$ 105,000	\$ 99,282	+\$ 4,211	-\$ 9,929(2)
Barrier Zone Scouting & Extermination.....	121,674	26,500	- - -	- - -	- 26,500(3)
Work on Long Island.....	5,133	727	- - -	- - -	- 727(4)
Extermination Work in Pennsylvania.....	98,832	7,368	- - -	- - -	- 7,368(5)
Total.....	360,291	139,595	99,282	+ 4,211	- 44,524
<u>Unobligated:</u>					
Salary reduction.....	33,522	9,701	- - -	- - -	- - -
Working funds reduction.	6,017	259,092	- - -	- - -	- - -
Deduct on account of Public Works Allotment of	- - -	- - -	- 99,282	- - -	- - -
Total Appropriation.....	400,000	408,388	- - -	- 408,388 (1)	(2)

(1) This reduction of \$408,388 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... - \$ 9,701
 Curtailments in 1934 working funds..... - 259,092
 Further reduction in working funds for 1935:
 Inspection and certification..... - \$ 9,929
 Barrier Zone Scouting and Extermination... - 26,500
 Work on Long Island..... - 727
 Extermination Work in Pennsylvania..... - 7,368
 - 44,524
 Budget provision for financing work in 1935
 from Public Works allotment..... - 99,282
 5% salary restoration..... + 4,211
Total reduction..... - 408,388

The reduction of \$44,524 in working funds for 1935 includes:

(2) A decrease of \$9,929 on Inspection and Certification. Long distance distribution of the gipsy moth is most likely to occur on shipments of products from the infested area to uninfested States. The egg clusters are laid on forest products, nursery stock, lumber and quarry products, to name the principal classifications of commodities likely to carry the infestation over long distances. The only method of protection for uninfested States from danger of receiving the infestation by shipments of these products lies in the careful inspection and certification. The reduced appropriation will require a corresponding reduction in the amount of inspection furnished the industries represented by these commodities.

(3) A decrease of \$26,500 in Barrier Zone Scouting and Extermination. This project will be discontinued, as no funds are provided for the work during 1935.

(4) A decrease of \$727 for Work on Long Island. This project will be discontinued, as no funds are provided for 1935.

(5) A decrease of \$7,363 for Extermination Work in Pennsylvania. This project will be discontinued, as no funds are provided for 1935.

Change in Language

Language omitted from regular Appropriation Act: "Gipsy and brown-tail moths: For the control and prevention of spread of the gipsy and brown-tail moths." (See note (a) on preceding page).

Work Done Under This Appropriation

The possibility of distribution of the gipsy moth over long distances on shipments of products which might carry it is illustrated by inspection records on such shipments. During the period the quarantine has been in force up to the end of the fiscal year 1932 more than 101,672 gipsy moth egg clusters have been removed from shipments as well as 11,337 specimens in other than egg state. Infestations have actually been discovered on and removed from shipments destined to every State except Idaho, Montana, Nevada and Oregon. This inspection and certification covers commodities which are grouped into nursery, quarry, forest and evergreen products. This certification is based on inspection and these commodities thus inspected and certified are eligible for interstate transportation. Industries located within the infested area and which deal with articles likely to carry this insect are enabled under Federal certification to ship their products in a normal way. If there were no Federal quarantines, State quarantines, which are practically embargoes, would be in effect in nearly every State. An interstate business in such articles would operate under a severe handicap. During the fiscal year 1933 certification covered: Evergreen products 463 carloads and 103,766 L. C. L.; forest products 2,427 carloads, 6 barge loads and 26,633 L. C. L.; Nursery products 124 carloads and 57,958 L. C. L.; stone and quarry products 169 barge loads, 4,957 carloads and 125,623 L. C. L.

Cooperation is being maintained during the fiscal year 1934 with 9 States, which States contributed an aggregate amount of \$1,161,017 to the cooperative work.

Emergency Funds Applicable
Under This Heading

Allotments under the National Industrial Recovery Act aggregating \$2,020,620 have been made, as follows:

Fed. Project No. 23	New York.....	\$ 50,000
" " No. 24	Vermont.....	604,500
" " No. 25	Massachusetts.....	389,000
" " No. 26	Connecticut.....	456,500
" " No. 27	Pennsylvania.....	520,620

This money was made available on August 15, 1933, and was allotted to be expended by June 30, 1934. These allotments are subject to revision, however, in order that \$99,282 may be transferred from the original allotments for use in 1935 for the regular gipsy moth inspection and certification work, as contemplated by the Budget schedule.

Under this appropriation employment was given to men taken from the various counties in which the work was to be performed and over two thousand men were employed. As a result 1,670 miles of roadside and 643,409 acres of woodland have been scouted, and 449,106 scattered trees on cleared land have been examined, 772 acres have been chopped and many thousands of gipsy moth egg clusters have been destroyed by creosoting.

Allotments under the Civil Works Program were made on December 1, 1933, for the extermination of the Brown-tail Moth, as follows:

<u>State</u>	<u>No. of Men</u>	<u>Amount</u>
Maine.....	1,606	\$ 279,535
New Hampshire.....	1,633	284,098
Massachusetts.....	1,606	279,535
Vermont.....	155	27,682
Total.....	5,000	870,850
Special allotment for travel.....		1,800
Grand total.....		<u>872,650</u>

This work has for its object cutting and burning of the brown-tail moth winter webs. These are for the most part readily visible making it thoroughly practicable for men not having previous experience to search for them. A reduction in the brown-tail moth population can thus be brought about which will be of benefit to human health, as well as to farmers and owners of fruit, shade and forest trees.

(j) Blister Rust Control

186

Appropriation, 1932 \$466,200
 Appropriation, 1933 392,400 (a)
Appropriation, 1934 370,657 (b)

Estimated Obligations, 1934 209,337
Budget Estimate, 1935 - - - (c)

- (a) Excludes \$17,500 transferred to Forest Pathology, Bureau of Plant Industry.
 (b) Excludes \$13,882 transferred to Forest Pathology, Bureau of Plant Industry.
 (c) This work is transferred from the Bureau of Plant Industry (control work) and the Bureau of Plant Quarantine (quarantine work). No estimate is made for the regular appropriation for 1935 as the Budget Schedules provide for the use of funds for this purpose, including administration in the District of Columbia and elsewhere, from the allotment which has been made for Blister Rust Control by the Federal Emergency Administration of Public Works.

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Eastern Control Program ..	\$173,767	\$ 74,206	\$ 48,329	+ \$2,200	-\$28,077 (1)
Western Control Program ..	167,674	127,956	98,226	+ 4,200	- 33,930 (1)
Quarantine Enforcement ..	8,488	7,725	5,683	+ 271	- 2,313 (1)
Total	354,929	209,887	152,238	+ 6,671	- 64,320
<u>Unobligated:</u>					
Salary reduction.....	31,348	12,507	- - -	- - -	- - -
Working funds reduction...	6,123	148,263	- - -	- - -	- - -
Deduct on account of Public Works Allotment of.....	- - -	- - -	152,238	- - -	- - -
Total Appropriation.....	392,400	370,657	- - -	- 370,657 (1)	

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the problem and the objectives of the research. It also mentions the scope of the study and the methods used.

2. The second part of the report is a detailed description of the experimental work. It includes a description of the apparatus used, the procedure followed, and the results obtained.

3. The third part of the report is a discussion of the results. It compares the results with those obtained in previous studies and discusses the implications of the findings. It also mentions the limitations of the study and suggests directions for future research.

4. The fourth part of the report is a conclusion. It summarizes the main findings of the study and states the conclusions drawn from the results.

5. The fifth part of the report is a list of references. It includes a list of the books, articles, and other sources used in the study.

(1) The reduction of \$370,657 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$12,507
Curtailments in 1934 working funds	-143,263
Further reduction in working funds for 1935 as follows:	

Eastern Control Program	-23,077	
Western Control Program	-33,930	
Quarantine Enforcement	- 2,313	- 64,320

Budget provision for financing work in 1935 from Public Works Allotment	-152,238
5% salary restoration	+ 6,671
Total reduction	<u>370,657</u>

Work Done Under This Appropriation.

In cooperation with the many affected States and Federal agencies such as the United States Forest Service, National Park Service and Indian Service, the Bureau conducts campaigns for the suppression and control of white pine blister rust, a fungous disease of the white or five-needled pines by the eradication of Ribes (currants and gooseberries) which are carriers of the disease, by the application of measures to delay the spread of the disease into unaffected regions, by experimentation and investigation to develop better control measures, and by leadership, technical direction and supervision, coordinates the control activities of the several cooperating agencies throughout the various sections of the country.

Emergency Funds Applicable
Under This Heading

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Allotments under the National Industrial Recovery
Act aggregating \$2,050,000 have been made for
White Pine Blister Rust Control, as follows:

State	Project Number	Original Allotment *
Connecticut	F.P. 185	\$25,000
Maine	F.P. 186	75,000
Massachusetts	F.P. 187	35,000
New Hampshire	F.P. 188	75,000
Rhode Island	F.P. 189	10,000
Vermont	F.P. 190	35,000
New York	F.P. 191	100,000
Pennsylvania	F.P. 192	50,000
New Jersey	F.P. 193	3,000
Michigan	F.P. 194	75,000
Minnesota	F.P. 195	75,000
Wisconsin	F.P. 196	50,000
Iowa	F.P. 197	10,000
Illinois	F.P. 198	10,000
Indiana	F.P. 199	10,000
Ohio	F.P. 200	15,000
Georgia	F.P. 201	10,000
Kentucky	F.P. 202	10,000
Maryland	F.P. 203	10,000
North Carolina	F.P. 204	50,000
South Carolina	F.P. 205	20,000
Tennessee	F.P. 206	15,000
Virginia	F.P. 207	40,000
West Virginia	F.P. 208	20,000
Idaho	F.P. 209	500,000
Montana	F.P. 210	90,000
Washington	F.P. 211	112,000
California	F.P. 212	400,000
Oregon	F.P. 213	50,000
Wyoming	F.P. 214	10,000
Colorado	F.P. 215	10,000
Oregon	F.P. 128	50,000

Grand Total \$2,050,000

* Subject to the revision necessary to provide for regular work for
1935, as per Budget schedule.

(k) Dutch Elm Disease Eradication

Appropriation, 1932 \$13,332 (a)
 Appropriation, 1933 3,000
Appropriation, 1934 3,000

Estimated Obligations, 1934 3,000
Budget Estimate, 1935 - - (b)

(a) Provided in Second Deficiency Act, 1931.

(b) No Budget Estimate for the work on the eradication of the Dutch Elm Disease is included for the fiscal year 1935. The Budget schedule contemplates that necessary work on this activity will be financed from funds allotted for this disease from the Federal Emergency Administration of Public Works.

PROJECT STATEMENT

Projects	1933	1934 Estimated	1935 Estimated	Increase or Decrease 5% salary ; Working Restoration: Funds
<u>Obligated:</u>				
Dutch Elm Disease				
Eradication	\$3,000	\$3,000	\$3,000	- - -
Deduct on account of				
Public Works Allotment :				
of	- - -	- - -	-3,000	- - -
Total Appropriation.....	3,000	3,000	- - -(b)	- - -

Work Done Under This Appropriation

During the past season a serious outbreak of the Dutch elm disease developed near Newark, N. J., involving more than 800 trees scattered over some 1,400 square miles and other infections have been found on Staten and Long Island, New York. The recent interception by quarantine officers of importations of burl elm logs infected with the Dutch elm disease and infested with its European insect vectors indicates that such logs are a probable means of transfer of the disease from Europe to North America. Situated in the heart of the region in which the especially susceptible American elm is native, this infection demands energetic action or this European disease may destroy this important American tree. A control program in cooperation with the States of New Jersey, New York, and Connecticut is being undertaken under allocations of funds by the Public Works Administration and the Civil Works Administration.

Emergency Funds Applicable
Under This Heading

The work so far done on the eradication of the Dutch elm disease has for the most part been carried on under allotments from two emergency appropriations as follows:

(1) \$30,000 from the Federal Emergency Administration of Public Works.-

On August 22, 1933 there was allotted from the appropriation under the National Industrial Recovery Act an amount aggregating \$80,000 for the following projects:

Federal Project No.	163-New Jersey.....	\$40,000
"	" " 164-Ohio.....	10,840
"	" " 165-New York.....	10,028
"	" " 166-Pennsylvania.....	7,770
"	" " 167-Connecticut.....	3,885
"	" " 168-Massachusetts.....	1,943
"	" " 169-District of Columbia.....	5,534
Total.....		<u>\$80,000</u>

It is estimated that \$9,486 of this amount will be unexpended June 30, 1934, and available for the fiscal year 1935.

(2) \$17,500 from the Civil Works Administration.- The Civil Works Administration has allotted \$17,500 for necessary expenses connected with the supervision and administration of a Civil Works project carried on at an estimated cost of \$400,000. This work is carried on in cooperation with State and local agencies. The states concerned and the allotments to them follow:

<u>State</u>	<u>Estimate of</u> <u>No. of Men</u>	<u>Allotment for Expenses</u> <u>Other than Labor</u>	<u>Estimated</u> <u>Cost</u>
Connecticut	214	\$11,112	\$79,518
New Jersey	420	25,782	159,162
New York	420	27,940	161,320
	<u>1,054</u>	<u>\$64,834</u>	<u>\$400,000</u>

(1) Truck Crop & Garden Insects

191

Appropriation, 1932.....\$ 512,877
 Appropriation, 1933..... 462,605
Appropriation, 1934..... 414,100

Estimated Obligations, 1934..... 307,150
Budget Estimate, 1935..... 303,048

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934..... 4,102

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or decrease 5% Salary Working Restoration Funds	
<u>Obligated:</u>					
Truck Crop Insects.....	\$193,718	\$159,660	\$158,045	\$+9,873	-11,802 (2)
Berry Insects.....	16,099	14,230	10,073	+ 157	- 4,000 (3)
Sugar-beet Insects.....	85,723	68,150	69,370	+1,220	- - -
Tobacco Insects.....	41,199	27,950	23,700	+ 750	- - -
Insects Affecting Greenhouses and Ornamental Plants	41,074	37,160	36,860	+1,386	- 1,686 (4)
Total.....	377,813	307,150	303,048	+13,386	-17,488
<u>Unobligated:</u>					
Salary reduction.....	30,364	18,360	- - -	- - -	- - -
Working funds reduction....	54,428	88,590	- - -	- - -	- - -
Total Appropriation.....	462,605	414,100	303,048	- 111,052 (1)	

(1) This reduction of \$111,052 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....\$ -18,360
 Curtailment in 1934 working funds..... -88,590
 Further reduction in working funds for 1935..... -17,488
 5% Salary restoration..... +13,386
-111,052

This reduction of \$17,488 in working funds for 1935 includes:

(2) A decrease of \$11,802 in the project "Truck Crop Insects." This decrease contemplates the discontinuance of work carried on in the States of Mississippi and Alabama to eradicate and control the sweet-potato weevil. Such work as is done on the sweet-potato weevil will be restricted to investigations to perfect methods of eradication and control and advising States of possible abundance and methods of carrying on eradication activities.

(3) A decrease of \$4,000 in work on berry insects.--This decrease contemplates the suspending of studies carried on in laboratories on the Atlantic Coastal Plain to determine the insects responsible for the transmission of certain diseases of bramble fruits and development of methods for their control.

(4) A decrease of \$1,686 in the project dealing with Insects affecting greenhouse and ornamental plants.--This decrease contemplates suspending certain studies on insects attacking bulbs. These studies are concerned with development of methods of treating bulbs to eliminate bulb flies and have progressed to a point where it is possible to recommend to growers and others methods of handling the bulbs so as to meet quarantine requirements.

Change in Language

The insertion of the word "crop" as the second word in the title and the elimination of it as the fourth word in the title is in the interest of exact expression. There are many plants common in gardens which are not usually referred to as crops. The elimination of the words "and garden" before the word "crop" is also made in the interest of exact expression. The inclusion of the words "ornamental and garden plants" and the words "greenhouse and bulbous crops", proposed in the Budget estimate, is recommended so as to more clearly describe the work which is, and has been, carried on under this item.

Work Done Under This Appropriation

This appropriation is used for investigations to develop methods of control for:

- (a) Insects attacking truck crops in the field and in storage, including the numerous insect pests of vegetables;
- (b) Insects attacking small fruits such as strawberries, raspberries and blackberries;
- (c) Insects attacking sugar beets;
- (d) Insects attacking tobacco both in the field and in storage;
- (e) Insects affecting flowers, bulbous plants, potted ornamentals, etc. and plants grown in greenhouses.

Most of the investigations on Truck Crop and Garden Insects are carried on independently but coordinated with those conducted by other agencies including State Experiment Stations. Certain features of the work are conducted cooperatively with the State Experiment Stations and with the Bureaus of Plant Industry and Chemistry and Soils. Field laboratories are maintained for the investigation on truck crop insects at Chadbourn, North Carolina; Charleston, South Carolina; Baton Rouge, Louisiana; Estancia, New Mexico; Tempe, Arizona; Alhambra and Ventura, California; Madison, Wisconsin; and Columbus, Ohio. Field laboratories for studies on insects affecting tobacco are located at Clarksville,

Tennessee and Quincy, Florida. Investigations on berry insects are carried on at Chadbourn, North Carolina and Puyallup, Washington. Investigations on sugar beet insects are headquartered at Twin Falls, Idaho with laboratories at Salt Lake City, Utah and Modesto, California and Grand Junction, Colorado. Investigations on bulb insects and those affecting greenhouse and ornamental plants are carried on at Washington, D. C., Arlington Farms, Virginia, Babylon, L. I., New York, and Summer, Washington.

Emergency Funds Applicable
Under this Heading

The work carried on under this activity has been augmented by allotments from the following three emergency appropriations:

- (1) \$50,200 from the Federal Emergency Administration for Public Works. The Public Works Administration has allotted \$50,200 for physical improvements. This allotment is divided into three projects:
 - (a) \$44,000 for the construction of a greenhouse at Beltsville, Maryland, to house plants used in investigations on greenhouse insects at present housed in Department greenhouses located between 12th and 13th Streets on Constitution Avenue.
 - (b) \$6,000 for the construction at Beltsville, of a mushroom house to carry on investigations on insects affecting mushrooms for which special funds were made available several years ago.
 - (c) \$200 for the construction at Richmond, Virginia, of a temporary insectary to be used in connection with the work on insects affecting stored tobacco.
- (2) \$1,000 from the Agricultural Adjustment Administration. The Agricultural Adjustment Administration, in the interest of extension of markets and reduction of surplus of certain grades of tobacco, has allotted \$1,000 to be used in testing the value of insecticides made from tobacco by-products for the control of various insect pests of cabbage. This small allotment permitted the enlargement of the experimental work at Charleston, S. C., so as to include tests on insecticides containing nicotine.
- (3) \$1,000 from the Civil Works Administration. The Civil Works Administration has allotted \$1,000 for necessary expenses in the administration and supervision of a project for the control of the sweet-potato weevil. This project has as its aim the destruction of seaside, marsh and other morning glories which serve as alternate hosts to maintain the sweet-potato weevil. It is estimated that this work, which is carried on in cooperation with responsible state agencies, will cost \$50,000. The States concerned and the allotments to them follow:

<u>State</u>	<u>Est. Cost</u>	<u>Est. No. Men Employed</u>	<u>Estimated Expenses</u> <u>Other than Labor</u>
Alabama	\$ 5,370	21	\$ 905
Florida	5,370	21	905
Georgia	5,370	21	905
Louisiana	28,520	127	2,230
Mississippi	5,370	21	905
Total	50,000	211	5,850

(m) Cereal and Forage Insects

Appropriations, 1932.....\$ 603,493
 Appropriations, 1933..... 552,854
Appropriations, 1934..... 478,140

Estimated Obligations, 1934..... 361,840
Budget Estimate, 1935..... 236,761

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934..... 125,079

PROJECT STATEMENT

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Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Cereal and Forage					
Insects.....	\$ 213,120	\$ 178,675	\$ 135,270	+ \$ 8,312	- \$ 1,717 (2)
European Corn					
Borer.....	209,882	128,600	- - -	- - -	- 128,600 (3)
Stored Grain					
Insects.....	26,034	26,500	22,030	+ 940	- 5,410 (4)
Sugarcane and					
Rice Insects.....	31,997	28,065	29,461	+ 1,396	- - -
Total.....	480,973	361,840	236,761	+ 10,648	- 135,727
<u>Unobligated:</u>					
Salary Reduction....	39,460	23,213	- - -	- - -	- - -
Working funds reduction.....	32,421	93,087	- - -	- - -	- - -
Total Appropriation...	552,854	478,140	236,761	- 241,379 (1)	

(1) This reduction of \$241,379 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....	- \$ 23,213
Curtailment in 1934 working funds.....	- 93,087
Further reduction in working funds for 1935.....	- 135,727
5% Salary restoration.....	+ 10,648
	<u>- 241,379</u>

The reduction of \$135,727 in working funds for 1935 includes:

- (2) A decrease of \$1,717 in "Cereal and Forage Insects." - This decrease contemplates reductions in the investigations on joint worms and alfalfa weevil.
- (3) A decrease of \$128,600 in investigations on European Corn Borer. - This reduction contemplates the discontinuance of all research work on European corn borer, and the closing of laboratories maintained for this purpose at Arlington, Massachusetts and Toledo, Ohio.
- (4) A decrease of \$5,410 on Stored Grain Insects. - This reduction is possible by curtailing studies on methods of preventing losses on farms due to weevil damage to corn in storage bins. It contemplates the closing of the station maintained at Thomasville, Georgia. Reduction in expenditures for clerical help used in connection with administrative work is also contemplated and is possible by consolidation of activities heretofore carried on under the item "Household and Stored Product Insects."

Change in Language

The elimination of the words "and including research on the European corn borer" proposed in the Budget estimate is in keeping with the reduction in work on this insect. It is also in the interest of simplicity and should avoid possible confusion with the appropriation item which provides for the control of the European corn borer.

Work Done Under This Appropriation

This appropriation was used for studies on insects affecting cereal and forage crops including sugarcane and rice and investigations for developing practical and economical means for their control. Among the insects studied under this appropriation are the numerous enemies of small grains such as the Hessian fly, chinch bug, corn ear worm, army worm, white grub, billbugs, cutworms, jointworms, webworms, etc. The more important pests attacking forage crops now being studied are leaf hoppers, grasshoppers, alfalfa weevil, alfalfa caterpillar, etc. Many common insect pests attack and injure plants used both as cereal crops and forage crops. An important activity now under way is concerned with the study of methods of controlling grasshoppers and surveys carried on in cooperation with State agencies to determine areas of greatest abundance and corresponding deposition of eggs which might be expected to hatch and produce outbreaks during the following summer.

Other investigations carried on under this item are concerned with insects destructive to grain and grain products in storage. Studies on these pests are concerned with the determination of the relation between unsanitary storage conditions and field infestation; the development of methods of insect control in terminal grain elevators, farmers bins, etc., by the use of fumigants, heat and electricity; ways of improving insect sanitation in flour mills.

Studies to determine the value of parasites in the control of the sugarcane moth borer, studies on sugar cane beetle and insects suspected of carrying diseases of sugarcane and investigations on various insect enemies of rice are also provided for under this item.

The work is coordinated with that carried on by State agencies and field laboratories are maintained at: Arlington, Massachusetts; Carlisle, Pennsylvania; Arlington Farms, Virginia; Savannah, Georgia; Lafayette, Indiana; Toledo, Ohio; Wichita, Kansas; Forest Grove, Oregon; Webster Groves, Missouri; and Kansas City, Missouri; Sacramento, California; Tempe, Arizona; Salt Lake City, Utah; Bozeman, Montana; San Antonio, Texas; Houma and Crowley, Louisiana.

Emergency Funds Applicable
Under This Heading

An allotment of \$350 has been made by the Federal Emergency Administration of Public Works under the National Industrial Recovery Act for the construction of a temporary insectary at Lafayette, Indiana. This insectary is to be used in connection with the work of the field laboratory maintained in cooperation with the Agricultural Experiment Station of Indiana.

Appropriation, 1932.....\$950,000
 Appropriation, 1933..... 295,000
Appropriation, 1934..... 40,000

Estimated Obligations, 1934..... 28,922
Budget Estimate, 1935..... 30,411

Increase, Budget 1935, compared with
 Estimated Obligations, 1934..... 1,489

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Scouting for Spread.....	\$ 206,372	- - -	- - -	- - -	- - -
Scouting for Intensity...	11,361	- - -	- - -	- - -	- - -
Inspection and Certi- fication.....	49,142	28,922	30,411	+ \$1,489	- - -
Total.....	266,875	28,922	30,411	+ 1,489	- - -
<u>Unobligated:</u>					
Salary reduction.....	16,686	2,006	- - -	- - -	- - -
Working funds reduction..	11,439	9,072	- - -	- - -	- - -
Total Appropriation.....	295,000	40,000	30,411	- 9,589 (1)	

(1) This reduction of \$9,589 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....	- \$ 2,006
Curtailments in 1934 working funds.....	- 9,072
5% salary restoration.....	+ 1,489
	<u>- 9,589</u>

Work Done Under This Appropriation

Because of the heavy reduction in funds the scouting work to enable the Department to keep advised as to the spread and status of the European corn borer was discontinued after the fiscal year 1933. The corn borer work is now necessarily confined to the certification of products going to States maintaining corn borer quarantines, and which States would not recognize State certification.

Cooperation is maintained with 13 States, which contribute an aggregate of \$50,250 to the work.

(o) Barberry Eradication

Appropriation, 1932..... \$377,140
 Appropriation, 1933..... 196,400
Appropriation, 1934..... 180,722

Estimated Obligations, 1934..... 126,918
Budget Estimate, 1935..... - - - (a)

(a) This work is transferred from the Bureau of Plant Industry (control work) and the Bureau of Plant Quarantine (quarantine work). No estimate is made for the regular appropriation for 1935, as the Budget schedules provide for the use of funds for this purpose, including administration in the District of Columbia and elsewhere, from the allotment which has been made for Barberry Eradication by the Federal Emergency Administration of Public Works.

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Barberry Eradication....	\$ 180,902	\$ 126,918	\$ 93,279	+ \$ 4,432	-\$78,071(1)
<u>Unobligated:</u>					
Salary reduction.....	13,429	7,116	- - -	- - -	- - -
Working funds reduction.	2,069	46,688	- - -	- - -	- - -
Deduct on account of Public Works Allotment of.....	- - -	- - -	-93,279	- - -	- - -
Total Appropriation.....	196,400	180,722	- - -	- 180,722 (1)	

(1) This reduction of \$180,722 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut.....	- \$ 7,116
Curtailments in 1934 working funds.....	- 46,688
Further reduction in working funds for 1935.....	- 38,071
Budget provision for financing work from Public Works allotment..in 1935.....	- 93,279
5% salary restoration.....	+ 4,432
	<u>- 180,722</u>

Work Done Under This Appropriation

In cooperation with the following 13 states: Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin and Wyoming, the Department of Agriculture is conducting the barberry eradication campaign for the purpose of:

1. Assisting in stabilizing total production of wheat, oats, barley, and rye, one or more of which are grown by 50 per cent of all farmers in the United States.
2. To make possible a more accurate and safer adjustment of production to market demands.
3. Protecting individual farmers against sudden reductions in yield and quality of small grain crops after the principal cost of production has been incurred.
4. To safeguard the plant breeding program for improvement of wheat, oats, barley, and rye by eliminating the common barberry on which new parasitic strains of the stem rust fungus originate as a result of natural crossing by existing strains.

Emergency Funds Applicable Under This Heading

(Prevention of Black Stem Rust)

An allotment under the National Recovery Act of \$750,000 for prevention of black stem rust has been allocated for expenditure in the barberry eradication states including Missouri (see above named states) as follows:

August 20 to December 31, 1933.....	\$226,500
January 1 to June 30, 1934....	181,700
July 1 to November 30, 1934.....	341,800

During the period August 20, 1933 to June 30, 1934 supervision of labor employed with these funds are being paid from regular appropriation for barberry eradication work. During this time approximately 75% of the N.R.A. allotment will go into salaries and expenses of men who would otherwise be unemployed. The remaining 25% provides chemicals and other equipment needed in the conduct of the work.

State	Project No.	Character of Work	Total estimated cost to complete
Colorado	F. P. 170	Prevention of Black Stem Rust of Wheat, Oats, Barley and Rye. Eradication of rust spreading barberry in wheat-producing areas subject to infection.	\$21,250
Illinois	F. P. 171	Do.	81,500
Indiana	F. P. 172	"	30,250
Iowa	F. P. 173	"	97,000
Michigan	F. P. 174	"	85,500
Minnesota	F. P. 175	"	65,900
Ohio	F. P. 176	"	85,500
Wisconsin	F. P. 177	"	153,400
North Dakota	F. P. 178	"	27,750
South Dakota	F. P. 179	"	16,750
Nebraska	F. P. 180	"	31,750
Montana	F. P. 181	"	11,375
Wyoming	F. P. 182	"	11,375
Missouri	F. P. 183	"	10,500
Dist. of Columbia	F. P. 184	"	20,200
Total			<u>\$750,000</u>

The existing allotments are subject to revision in order to provide for the use of \$93,279 for the regular work, as provided by the Budget schedule.

(p) Cotton Insects

Appropriation, 1932 \$298,820
 Appropriation, 1933 200,000
Appropriation, 1934 175,000

Estimated Obligations, 1934 132,400
Budget Estimate, 1935 114,763

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 17,637

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Cotton boll weevil...	\$75,665	\$58,400	\$44,793	+\$1,974	-\$15,581(2)
Miscellaneous Cotton Insects.....	39,932	39,750	41,095	+ 1,345	- - -
Thurberia weevil.....	11,113	9,400	8,325	+ 750	- 1,825(3)
Pink Bollworm.....	34,163	24,850	20,550	+ 1,050	- 5,350(4)
Total.....	160,873	132,400	114,763	+ 5,119	- 22,756
<u>Unobligated:</u>					
Salary reduction.....	14,266	8,197	- - -	- - -	- - -
Working funds reduction	24,861	34,403	- - -	- - -	- - -
Total Appropriation....	200,000	175,000	114,763	- 60,237 (1)	

(1) This reduction of \$60,237 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$2,197
 Curtailment in 1934 working funds -34,403
 Further reduction in working funds for 1935 -22,756
 5% salary restoration + 5,119

-60,237

The reduction of \$22,756 in working funds for 1935 includes:

(2) A decrease of \$15,581 for Investigations on the Boll Weevil. This reduction contemplates the discontinuing of studies on fall population, hibernation and spring survival, studies on possible attractants, studies on methods of distributing calcium arsenate dust by duster attached to cultivator, tests to ascertain if fewer and better-timed applications of calcium arsenate will give effective control, tests to ascertain the effectiveness of molasses calcium arsenate mixture, studies on the effect of cultural practices on the weevil, studies to determine the effect of weevil injury on the quality of lint and seed.

(3) A decrease of \$1,825 in Investigations on Thurberia Weevil. This decrease contemplates a general reduction in the activities on this pest both as to biological studies and surveys to determine its abundance in commercial cotton and the investigations to determine the value of insecticides in control.

(4) A decrease of \$5,350 in Investigations on the Pink Bollworm. This decrease contemplates a reduction in studies on the habits and development of this pest and the studies concerned with its control by cultural practices.

Change in Language

The elimination of the words "and including research on the pink bollworm of cotton" recommended in the Budget estimate is in the interest of simplification and to avoid possible confusion with the item which provides funds for the control of the pink bollworm.

Work Done Under This Appropriation

The funds provided by this appropriation are used to conduct investigations on insects injurious to cotton and for the development of methods for their control by direct or indirect measures. These activities are concerned with:

Investigations on the boll weevil to develop and improve control measures;

Investigations to determine habits and methods of controlling such pests as cotton flea hopper, the bollworm, cotton aphid and cotton stainers, etc.

Surveys and studies on the Thurberia weevil to determine its abundance, life history and effect on commercial cotton and develop methods for its control.

Investigations to ascertain facts on the life history, habits and methods of control of the pink bollworm, including the importation and colonization of parasites.

The work on cotton insects is carried on at field headquarters maintained at Tallulah, Louisiana, Florence, South Carolina, Eufaula, Oklahoma, Bryan and Port Lavaca, Texas, and Tucson, Arizona. Certain activities are carried on in cooperation with the Bureau of Chemistry and Soils and with State Experiment Stations.

Emergency Funds Applicable
Under This Heading

An allotment of \$700 has been made from the Federal Emergency Administration of Public Works, for the following purposes:

- (1) \$600 for the construction of a temporary insectary at Port Lavaca, Texas to be used for studies on the cotton flea hopper and closely related insect pests of cotton.
- (2) \$100 for the construction of a temporary insectary at Tucson, Arizona, for investigations on the Thurberia Weevil.

(g) Pink Bollworm Control

Appropriation, 1932	\$497,000
Appropriation, 1933	375,000
<u>Appropriation, 1934</u>	<u>379,804</u>

<u>Estimated Obligations, 1934</u>	315,238
<u>Budget Estimate, 1935</u>	<u>254,959</u>

Decrease, Budget 1935, compared with Estimated Obligations, 1934	<u>60,279</u>
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PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Eradication and Control in Florida.....	\$65,000	\$70,045	\$75,000	+63,242	+\$1,713(2)
Eastern Area.....	73,500	52,500	38,359	+ 1,658	-15,799(3)
Western Area.....	60,000	32,500	41,000	+1,772	+728(4)
Salt River Valley.....	30,500	25,000	- - -	- - -	-25,000(5)
Laboratory.....	37,500	37,500	- - -	- - -	-37,500(6)
Gin Trash Inspection Out- side Regulated Area....	40,133	35,193	61,000	+2,637	+3,170(7)
Gin Trash Inspection In- side Regulated Area....	13,500	23,500	23,500	+1,102	+893(8)
Field Inspection Outside Regulated Area.....	13,500	13,000	14,100	+ 603	+491(9)
Total.....	333,693	315,238	254,959	+11,020	-71,239
<u>Unobligated:</u>					
Salary reduction.....	23,725	18,786	- - -	- - -	- - -
Working funds reduction..	17,582	45,780	- - -	- - -	- - -
Total Appropriation.....	375,000	379,804	254,959	- 124,845 (1)	

(1) This reduction of \$124,845 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$18,786
Curtailments in 1934 working funds	- 45,780
Further reduction in working funds for 1935	- 71,299
5% salary restoration	+ 11,020
	<u>-124,845</u>

The reduction of \$71,299 in working funds for 1935 includes:

(2) An increase of \$1,713 for Eradication and Control in Florida, due to mathematical error in distributing among the projects the subappropriation 5% restoration salary item.

(3) A decrease of \$15,799 for the Eastern Area. The work in the Eastern area of Texas includes the heavily infested section in the vicinity of Presidio, Texas. Infested cotton fields are growing across the river in Mexico with heavy infestation on both sides. A general program of suppression and control and prevention of spread is maintained in this area. This includes field cleanup and quarantine enforcement, the former to prevent the natural spread of the insect and the latter to prevent artificial spread through the movement of products which might carry infestation. Other activities include gin trash inspection to determine density of infestation; supervision of oil mills and sterilization of cottonseed and lint. The reduction cannot be taken in activities which directly involve the certification of cotton products for movement out of the area. The only item left which can be reduced is that of field cleanup and trap planting in the vicinity of Presidio. This will be eliminated.

(4) An increase of \$728 for the Western Area, due to mathematical error in distributing among the projects the subappropriation 5% restoration salary item.

(5) A decrease of \$25,000 for the Salt River Valley. The second year has passed without finding any pink bollworms in the Salt River Valley and consequently the area has been released from quarantine. All work in connection with the area formerly under regulation in the Salt River Valley is therefore, discontinued, which makes it possible to make this reduction.

(6) A decrease of \$37,500 for the Laboratory. Bolls are collected from cotton fields in various sections of the country outside of the regulated area. They are packed in preservatives and inspected in laboratories which are maintained at Miami, Florida; and San Antonio, Alpine and El Paso, Texas. Under the reduced appropriation this method of scouting for the pink bollworm will be discontinued.

(7) An increase of \$3,170 for Gin Trash Inspection Outside Regulated Area.

(8) An increase of \$898 for Gin Trash Inspection Inside Regulated Area.

(9) An increase of \$491 for Field Inspection Outside Regulated Area.

These three increases, (7), (8), and (9), are due to mathematical errors in distributing the 5% salary restoration.

Change in Language

Elimination of following language "the erection and repair of necessary inspection stations" and "Provided, That the cost of each such station shall not exceed \$500, and that the total amount expended for such stations in one year shall not exceed \$2,500". Need no longer exists for the building of this type of station.

Work Done Under This Appropriation

The pink bollworm of cotton finds its way into the United States from Mexico. Infestations have been eradicated in parts of Texas, Louisiana and Arizona. Work is still going on in the States of Arizona, Florida, Georgia, New Mexico, and Texas. It is believed that complete extermination of this insect throughout the infested area is possible, except for those areas which are adjacent to sources of infestation in Mexico. The purpose of the work is to determine the presence or absence of the insect in a given locality and to so regulate the growing and movement of cotton in and from such areas as to prevent the spread of the infestation to points outside the regulated area. A further object sought is the suppression or control of the insect within the regulated area, by means of sterilization of seed, delayed planting and other measures. Cooperation is maintained with thirteen States, which States contribute in the aggregate an amount of \$48,000 to the work.

(r) Thurberia Weevil Control

Appropriation, 1932	\$34,500
Appropriation, 1933	10,250
<u>Appropriation, 1934</u>	<u>3,275</u>

<u>Estimated Obligations, 1934</u>	<u>2,449</u>
<u>Budget Estimate, 1935</u>	<u>2,584</u>

Increase, Budget 1935, compared with	
Estimated Obligations, 1934	<u>135</u>

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Administration.....	\$1,000	\$300	\$300	- - -	- - -
Quarantine Enforcement.	7,518	2,149	2,284	+ 135	- - -
Total.....	8,518	2,449	2,584	+ 135	- - -
<u>Unobligated:</u>					
Salary reduction.....	870	180	- - -	- - -	- - -
Working funds reduction	862	646	- - -	- - -	- - -
Total Appropriation.....	10,250	3,275	2,584	- 691 (1)	

(1) This reduction of \$691 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$180
Curtailments in 1934 working funds	- 646
5% salary restoration	+ 135
	<u>- 691</u>

Work Done Under This Appropriation

The work under this quarantine involves the enforcement of restrictions on seed and other articles to prevent their carrying the *Thurberia* weevil into uninfested regions. The *Thurberia* weevil is a native variety of the Mexican boll weevil, and occurs in limited areas in the State of Arizona. Under natural conditions, this native insect lives on wild *Thurberia* cotton. With the production of cultivated cotton in this area, it has become attracted to this crop. The weevil has demonstrated capacity to breed in cultivated cotton and because of its ability to live under arid conditions is a serious menace to cotton grown under semi-arid conditions.

Cooperation is maintained with the State of Arizona, which is contributing during the fiscal year 1934 an amount of \$1,000 to the cooperative work.

(s) Bee Culture

Appropriation, 1932 \$73,920
 Appropriation, 1933 70,320
Appropriation, 1934 65,000

Estimated Obligations, 1934 48,030
Budget Estimate, 1935 45,670

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934 2,360

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Biological studies.....	\$19,887	\$17,310	\$16,700	+\$650	-\$1,260(2)
Technological studies.....	6,384	6,310	6,800	+ 490	- - -
Beekeeping in intermountain regions.....	8,801	7,350	7,730	+380	- - -
Beekeeping in Southern States.....	7,960	7,010	6,920	+ 330	-420(3)
Beekeeping in Pacific States.....	12,622	10,050	7,520	+ 315	-2,845(4)
Total.....	55,954	48,030	45,670	+2,165	-4,525
<u>Unobligated:</u>					
Salary reduction.....	5,399	3,242	- - -	- - -	- - -
Working funds reduction.....	9,067	13,728	- - -	- - -	- - -
Total Appropriation.....	70,320	65,000	45,670	- 19,330 (1)	

(1) This reduction of \$19,330 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$3,242
 Curtailment in 1934 working funds -13,728
 Further reduction in working funds for 1935 - 4,525
 5% salary restoration + 2,165
-19,330

The reduction of \$4,525 in working funds for 1935 includes:

(2) A decrease of \$1,260 in the project for biological studies. This decrease contemplates the discontinuance of investigations on the effect of methods of handling honey in the honeyhouse and when prepared for market so as to prevent crystalization or other changes which reduce its market value.

(3) A decrease of \$420 in the project "Beekeeping in the Southern States", due to a misdistribution of the 5% salary restoration among projects.

(4) A decrease of \$2,845 in the project "Beekeeping in the Pacific States". This decrease contemplates the discontinuance of surveys carried on in California and other Pacific Coast States in cooperation with state agencies to secure information on the production, distribution and consumption of apinary products.

Change in Language

The insertion of the title "Bee Culture" proposed in the Budget estimate is in the interest of uniformity through provision of a short title.

Work Done Under This Appropriation

This appropriation provides for investigations on the habits and management of bees to make the production of honey and wax more profitable and to facilitate the pollination of fruits, vegetables and forage crops by the use of honey bees. This work includes:

(1) Biological investigations involving many activities such as:

- (a) studies on the responses of honey bee to natural conditions, such as temperature, humidity, altitude.
- (b.) studies on races or strains of bees to determine physical or biological differences and their value.
- (c) studies on the bacterial, fungal and protozoan diseases of bees.
- (d) the examination of samples to diagnose diseases that may be found in products or bees.
- (e) examination of shipments of queen bees from foreign countries as provided in the act regulating the importation of the honey bee.

(2) Technological investigations which include studies to determine the cost of producing honey; the value and necessity of various types of equipment and methods. Information secured from such studies should provide the beekeeper with exact knowledge which will enable him to adopt a procedure which will give him desired control of production so far as possible through management of the apiary.

- (3) Investigations of problems on bee culture peculiar to the natural conditions of the intermountain region.
- (4) Investigations of problems of honey production peculiar to Gulf States and other problems concerning queen rearing and package bee industries which are extensively developed in the Southern States.
- (5) Investigations of problems of commercial beekeeping which are peculiar to the Pacific Coast region because of specialized climatic and floral conditions.

The work is headquartered at the laboratory at Somerset, Maryland, where general investigations are conducted. Problems relating to the various bee-keeping regions are quartered at laboratories at Laramie, Wyoming, Davis, California, and Baton Rouge, Louisiana, which are furnished free by the state institutions.

Emergency Funds Applicable
Under This Heading

The Federal Emergency Administration of Public Works has allotted \$35,000, under this heading, for the construction of a laboratory at Beltsville, Maryland, to house the investigations carried on in rented quarters at Somerset, Maryland.

(t) Household and Stored Products Insects (a)

Appropriation, 1932	\$136,920
Appropriation, 1933	147,320
<u>Appropriation, 1934</u>	<u>130,000</u>

<u>Estimated Obligations, 1934.....</u>	<u>(a)</u>
<u>Budget Estimate, 1935.....</u>	<u>(a)</u>

(a) The appropriation item "Household and Stored Products Insects" included in the act making appropriations for the fiscal year 1934 is not included in the proposed budget estimates. The activities previously authorized and carried on under this item are, however, provided for in the estimates and have been distributed to the appropriation items concerned with the control of insects which attack the crop which produces the product. It is believed that this type of organization will be more effective. The injury that becomes apparent in many products after they have entered storage or trade channels is due to infestation in the field. The activities carried on under the item "Household and Stored Product Insects" are distributed as follows:

- (1) Investigations on insects attacking dried fruit insects to "Fruit Insects."
- (2) Investigations on insects attacking wood products to "Forest Insects."
- (3) Investigations on insects attacking tobacco in storage, stored peas and stored beans to "Truck Crop Insects".
- (4) Investigations on insects attacking stored grain to "Cereal and Forage Insects."
- (5) Investigations on household and related insects to "Insects Affecting Man and Animals."

The only part of the 1933 and 1934 appropriations listed in the budget schedule under this head is the total of estimated savings and unobligated balances. Obligations are included under the other subappropriations to which the activities of this division are to be assigned upon its discontinuance.

(u) Insects Affecting Man and Animals

Appropriation, 1932	\$ 193,827
Appropriation, 1933	169,294
Appropriation, 1934	148,300

Estimated Obligations, 1934	115,750
<u>Budget Estimate, 1935</u>	<u>109,600</u>

Decrease, Budget 1935, compared with Estimated Obligations, 1934	<u>6,150</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary . Working Restoration.	Funds
<u>Obligated:</u>					
Insects affecting Man....	\$ 51,189	\$ 40,420	\$ 40,215	+ 1,890	- 2,095(2)
Household Insects.....	24,294	18,300	13,145	+ 610	- 5,765(3)
Insects Affecting Cattle..	40,341	28,970	28,410	+ 1,280	- 1,840(4)
Insects Affecting Sheep and Goats.....	28,150	22,840	24,080	+ 1,240	---
Insects Affecting Miscel- laneous Animals.....	3,547	2,620	1,020	+ 50	- 1,650(5)
Insects Affecting Poultry & Birds.....	3,065	2,600	2,730	+ 130	---
Total	150,586	115,750	109,600	+ 5,200	-11,350
<u>Unobligated:</u>					
Salary reduction.....	12,539	7,350	---	---	---
Working funds reduction..	6,119	25,200	---	---	---
Total Appropriation.....	169,294	148,300	109,600	- 33,700 (1)	

(1) This reduction of \$33,700 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	-\$7,350
Curtailments in 1934 working funds	-25,200
Further reduction in working funds for 1935	-11,350
5% Salary restoration	+ 5,200
	<u>-33,700</u>

The reduction of \$11,350 in working funds for 1935 includes:

(2) A decrease of \$2,095 in the allotment to the project "Insects Affecting Man." This decrease contemplates the discontinuance of investigations on the eye gnat carried on in Coachella Valley, California.

(3) A decrease of \$5,765, the amount allotted to special studies on the Argentine Ant.--During the last few years a study has been made of the Argentine Ant to determine its distribution and relative abundance, and secure facts which will enable State or local agencies in planning and carrying out eradication or control campaigns. The survey work and appraisal of the value of control and eradication efforts carried on in certain localities have been completed. The possibility of materially modifying control or eradication campaigns cannot be determined without further studies.

(4) A decrease of \$1,840 in the allotment for investigations on "Insects Affecting Sheep." This decrease contemplates the discontinuance of the large scale trapping work on screw worm which has been carried out under range conditions in the southwest, particularly in Texas.

(5) A decrease of \$1,650 in project allotment for "Insects Affecting Miscellaneous Animals." This decrease contemplates the discontinuance of investigations on the buffalo gnat carried on in a very limited way in certain parts of the Lower Mississippi Valley and the discontinuance of studies on insects affecting deer which have been carried on in cooperation with State agencies in Pennsylvania.

Change in Language

The change in language as recommended in the Budget estimate is explained as follows:

(a) The addition of the words "Insects affecting man and animals" is in the interest of uniformity and provides a title for an item which was not titled in the Act making appropriations for the fiscal year 1934.

(b) The addition of the words "household possessions" is recommended to provide for investigations on household insects heretofore included under the item "Household and Stored Products Insects". The latter appropriation item is abolished and the activities previously authorized and carried on household insects are transferred to the present item.

Work Done Under This Appropriation

This appropriation provides for investigation on insect pests of farm and range animals, poultry, pests and those which annoy man by direct attack or by carrying human diseases. These activities involve a study of the life history and habits of the insects, and development of means for their control and eradication.

Investigations on insects affecting man now under way include: Studies headquartered at Portland, Oregon on species of mosquitoes which breed in flood water conditions in the Pacific northwest; studies headquartered at Orlando, Florida, on salt marsh mosquitoes and the mosquito

pest on the east coast known as Mansonia; investigations headquartered at Savannah, Georgia to determine methods of controlling various species of pestiferous sandflies common throughout the Atlantic Coastal Plain; investigations headquartered at Washington, D.C. to determine the factors relating to the use of fly maggots for treating bone diseases:

Investigations on insects affecting animals include: Studies headquartered at Ames, Iowa, to determine methods for the control of cattle grubs, flies in dairies, etc.; studies of the habits and parasites of ticks conducted at the laboratory at Brownsville, Texas; studies of important pests of sheep and goats, carried on at laboratories located at Dallas, Menard and Uvalde, Texas, special emphasis being placed on the screw worm, a pest which recently became unexpectedly abundant in parts of Florida and Georgia; studies on insects attacking poultry, conducted at the laboratory at Takoma Park, Maryland.

Emergency Funds Applicable
Under This Heading.

- (1) \$2,950 from the Federal Emergency Administration for Public Works.---
The Public Works Administration has allotted \$2,950 for physical improvements at the following stations:

- (a) \$1,500 for the construction of an insectary, garage and fence at Uvalde, Texas,
- (b) \$1,100 for the construction of an insectary, storage sheds and fences at Sonora, Texas.
- (c) \$100 for the construction of insect cages at Savannah, Ga.
- (d) \$200 for the construction of insect cages at Menard, Texas.
- (e) \$50 for the construction of chicken enclosures at Takoma Park, Md.

- (2) \$1,000 from the Agricultural Adjustment Administration. The Agricultural Adjustment Administration, in the interest of extension of markets and reduction of surplus crops of certain grades of tobacco, has allotted \$1,000 for testing various insecticides containing nicotine to determine their effectiveness and possible use in the control of poultry pests. This money supplements experimental work under way at Dallas, Texas, and Takoma Park, Md.

- (3) \$78,625 from the Civil Works Administration for general administrative expenses for two C. W. A. projects as follows:

- (a) \$73,250 to provide for necessary administrative expenses and supervision of Civil Works project for control of pest mosquitoes. This Civil Works project is carried on under the direction of the Bureau in cooperation with appropriate, responsible officers in 36 States at an estimated cost of \$3,388,700. It is estimated that this activity will provide employment for 25,645 men and involve expenditures amounting to \$250,400 for items other than labor.
- (b) \$5,375 for necessary administrative expenses in the supervision of a project on control of ticks which carry human diseases. This project is under the direction of the Bureau and carried on in the District of Columbia, and in cooperation with the States of Maryland, Virginia, and Delaware. The estimated cost is \$79,500. It is anticipated that this work will provide employment for 369 men and involve expenditures for items other than labor amounting to \$8,375.

Appropriation, 1932.....\$197,930
 Appropriation, 1933..... 177,955
Appropriation, 1934..... 162,000

Estimated Obligations, 1934..... 131,500
Budget Estimate, 1935..... 121,616

Decrease, Budget 1935, compared with
 Estimated Obligations, 1934..... 9,884

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary ; Working Restoration Funds	
<u>Obligated:</u>					
Identification and class- ification of insects....	124,363	112,300	112,973	+ 6,282	-5,609 (2)
Insect Pest Survey.....	9,920	10,020	8,643	+ 400	-1,777 (3)
Public Relations.....	15,304	9,180	---	---	-9,180 (4)
Total.....	149,587	131,500	121,616	+ 6,682	-16,566
<u>Unobligated:</u>					
Salary reduction.....	15,968	9,052	---	---	---
Working funds reduction..	12,400	21,448	---	---	---
Total Appropriation.....	177,955	162,000	121,616	- 40,384	(1)

(1) This reduction of \$40,384 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut -\$9,052
 Curtailments in 1934 working funds -21,448
 Further reduction in working funds for 1935. -16,566
 5% Salary restoration. + 6,682

-40,384

The reduction of \$16,566 in working funds for 1935 includes:

- (2) A decrease of \$5,609 which contemplates the discontinuance of special bioclimatic studies on insects and the suspending of the special activity concerned with investigations on diseases of insects.
- (3) A decrease of \$1,777 on Insect Pest Survey.-- This decrease contemplates reduction in clerical assistance in the assembling and distributing information regarding the occurrence and relative abundance of insect pests supplied by entomologists located in the field through cooperative arrangements with state officials or other agencies.

- (4) A decrease of \$9,180 which contemplates the discontinuance of the work carried on by extension specialists in entomology.

Change in Language

The insertion of the words "Insect Pest Survey" and the elimination of the words "and classification of insects" in the title proposed in the budget estimate is in the interest of a clear designation of the activities provided for under this appropriation.

The elimination of the word "toxicological" in the language proposed in the budget estimate is recommended because the activities for determining the toxicity of insecticides etc. are transferred to the proposed item "Control Investigations."

The insertion of the word "morphological" in the language proposed in the budget estimates is recommended to more adequately explain activities, necessary in connection with the identification and classification of insects, which are now and have been carried on under this item.

Work Done Under this Appropriation

The funds supplied under this appropriation provide for investigations on basic subjects necessary for the conduct of much of the Bureau's work and include:

- (1) The identification, classification and description of insects in both adult and immature stages. These functions are of a continuing and service nature and of vital importance to economic entomology. Accurate and authoritative information on the identity and relationships of insects is required in the daily work concerned with plant and animal quarantines, control activities and research problems. The demand from other offices of the Bureau, state entomologists, etc., for information and assistance of this type sorely taxes the limited number of specialists available.
- (2) Investigations on the anatomy and structure of insects necessary for (a) the proper understanding of characters by which the hundreds of thousand of kinds are distinguished and (b) the interpretation of the reactions to poisons etc.
- (3) The assembling information and coordination investigations dealing with the collection, distribution or exchange of predaceous or parasitic insects which may be useful in the control of injurious pests.
- (4) The collecting, recording, analyzing, and maintaining permanent records on insect abundance and damage and distribution, to cooperating State officials etc., information on current insect conditions.

(w) Control Investigations (a)

Appropriation, 1932 \$ 54,860
 Appropriation, 1933 43,867
Appropriation, 1934 38,850

Estimated Obligations, 1934 38,850
Budget Estimate, 1935 40,738

Increase, Budget 1935, compared with
 Estimated Obligations, 1934. 1,888

PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease	
				5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Sterilization of plants and plant products.....	\$11,822	\$ 10,850	\$ 11,440	+\$ 589	- - -
Physiology and toxicology....	32,045	28,000	29,298	+ 1,299	- - -
Total Appropriation.....	43,867	38,850	40,738	+ 1,888(1)	- - -

(1) The increase of \$1,888 over the appropriation for 1934 is to cover the 5% salary restoration.

- (a) This unit is comprised of activities transferred from "General Administrative Expenses" and "Insect Pest Survey and Identification". Only obligations are indicated for 1933 and 1934, the savings and unobligated balances being included for those years under the other two sub-appropriations.

The new language proposed in the Budget estimate is recommended to provide for activities heretofore carried on in the Bureaus of Plant Quarantine and Entomology under other items. The work concerned with the coordination and standardization of methods of disinfecting plant and plant products is provided for and carried on under the item "General Administration Expenses" in the Bureau of Plant Quarantine. Investigations on the toxicity of insecticides and related phases of insect pest control are provided for and carried on under the item "Identification and Classification of Insects" in the Bureau of Entomology.

Work Done Under This Appropriation

The activities carried on under this item are concerned with problems which have an intimate relation with much of the control and quarantine enforcement work of the Bureau. For the effective solution of these problems it is necessary to cut across crop and divisional lines. The information obtained from such studies will suggest methods of control for particular pests which are being extensively studied or controlled in other units. These activities may be grouped into two units: One is concerned principally with studies on important phases of sterilization and disinfection of plants and plant products, particularly the movement of which is regulated by State or Federal quarantines. The other is concerned with the development and discovery of insecticides and investigations to increase our knowledge of the methods of action of insecticides, repellents and attractants for the purpose of improving chemical means for the control of insect pests. These activities are carried on in cooperation with the units of the Bureau concerned with the control of pests and in cooperation with the Insecticide Division of the Bureau of Chemistry and Soils which supplies many of the materials to be tested and analyzes others.

Emergency Funds Applicable
Under this Heading

Allotments from the following two Emergency administrations are concerned with the work carried on under appropriation item which is here proposed:

- (1) \$50,000 from the Federal Emergency Administration of Public Works.---The Public Works Administration has allotted \$50,000 for physical improvements which will provide for the construction of a semi-fire proof laboratory at Beltsville, Maryland. This laboratory will house investigations now carried out on insecticides, etc., in rented laboratory quarters at Takoma Park, Maryland.
- (2) \$700 from the Agricultural Adjustment Administration.---The Agricultural Adjustment Administration, in the interest of extension of markets and reduction of surplus tobacco products, allotted \$700 for the testing of insecticides made from by-products of tobacco to determine their effectiveness in the control of certain leaf-feeding insects. This allotment supplements work under way at the laboratory at Takoma Park.

(x) Transit Inspection

Appropriation, 1932\$ 42,800
 Appropriation, 1933 32,400
Appropriation, 1934 30,229

Estimated Obligations, 1934 25,095
Budget Estimate, 1935 26,419

Increase, Budget 1935, compared with
Estimated Obligations, 1934..... 1,324

PROJECT STATEMENT

Projects	1933	1934	1935	Increase or Decrease	
		(Estimated)	(Estimated)	5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Transit Inspection ..	\$28,567	\$25,095	\$26,419	+ \$1,324	- - -
<u>Unobligated:</u>					
Salary reduction	2,710	1,661	- - -	- - -	- - -
Working funds reduction	1,123	3,473	- - -	- - -	- - -
Total Appropriation ...	32,400	30,229	26,419	- 3,810 (1)	

(1) This reduction of \$3,810 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut..... - \$1,661
 Curtailments in 1934 working funds..... - 3,473
 5% salary restoration..... + 1,324
 - 3,810

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \frac{1}{x} \int_0^x f(t) dt, \quad f(0) = 1.$$

It is easy to see that $f(x)$ is a decreasing function.

Let us denote by $f_1(x)$ the function defined by the equation

$$f_1(x) = \frac{1}{x} \int_0^x f_1(t) dt, \quad f_1(0) = 1.$$

$$f_1(x) = \frac{1}{x} \int_0^x f(t) dt.$$

It is easy to see that $f_1(x)$ is a decreasing function. Let us denote by $f_2(x)$ the function defined by the equation

$$f_2(x) = \frac{1}{x} \int_0^x f_2(t) dt, \quad f_2(0) = 1.$$

It is easy to see that $f_2(x)$ is a decreasing function. Let us denote by $f_3(x)$ the function defined by the equation

$$f_3(x) = \frac{1}{x} \int_0^x f_3(t) dt, \quad f_3(0) = 1.$$

It is easy to see that $f_3(x)$ is a decreasing function.

Let us denote by $f_4(x)$ the function defined by the equation

$$f_4(x) = \frac{1}{x} \int_0^x f_4(t) dt, \quad f_4(0) = 1.$$

It is easy to see that $f_4(x)$ is a decreasing function. Let us denote by $f_5(x)$ the function defined by the equation

$$f_5(x) = \frac{1}{x} \int_0^x f_5(t) dt, \quad f_5(0) = 1.$$

It is easy to see that $f_5(x)$ is a decreasing function. Let us denote by $f_6(x)$ the function defined by the equation

$$f_6(x) = \frac{1}{x} \int_0^x f_6(t) dt, \quad f_6(0) = 1.$$

It is easy to see that $f_6(x)$ is a decreasing function. Let us denote by $f_7(x)$ the function defined by the equation

$$f_7(x) = \frac{1}{x} \int_0^x f_7(t) dt, \quad f_7(0) = 1.$$

It is easy to see that $f_7(x)$ is a decreasing function.

Let us denote by $f_8(x)$ the function defined by the equation

$$f_8(x) = \frac{1}{x} \int_0^x f_8(t) dt, \quad f_8(0) = 1.$$

It is easy to see that $f_8(x)$ is a decreasing function.

Work Done Under This Appropriation

Transit inspection constitutes the only means by which the Department can be sure that the safeguards required under the quarantine regulations are being followed, in the case of mail, express and freight shipments. The work consists of checking such shipments at important railway centers. Experience shows that when the Department fails to check such shipments, uninspected, untreated, and uncertified plants and other susceptible materials are transported by common carriers to uninfested regions, thereby threatening to establish new pests in such areas. The transit inspection service not only turns back to the shippers several thousand such packages every year, but keeps the employees of the common carriers informed about quarantine requirements and actively supporting them.

During the fiscal year 1933, 1,486 violations of the Federal quarantines were noted and appropriately disposed of by transit inspectors at some 26 transfer points.

Cooperation is maintained with 13 States, which States contribute an aggregate of \$19,617 to the work.

The States also report expenditures of about \$35,500 on the inspection of narcissus in order to comply with the requirements of the Federal bulb pest quarantine. No Federal money is now being spent on such inspection, but the transit inspectors intercept such violations of this quarantine as come to their attention.

(v) Foreign Plant Quarantines

Appropriation, 1932	\$ 799,130
Appropriation, 1933	737,970
Appropriation, 1934	<u>685,000</u>

Estimated Obligations, 1934	568,550
Budget Estimate, 1935	<u>536,516</u>

Decrease, Budget 1935, compared with Estimated Obligations, 1934	<u>32,034</u>
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PROJECT STATEMENT

Projects	1933	1934 (Estimated)	1935 (Estimated)	Increase or Decrease 5% Salary Restoration	Working Funds
<u>Obligated:</u>					
Import and permit service	\$64,914	\$58,660	\$ 51,528	+ \$2,409	- \$9,541(2)
Port Inspection service	279,502	246,106	248,253	+ 13,028	- 10,881(3)
Mexican border inspec- tion service.	217,208	193,266	169,380	+ 9,019	- 32,905(4)
District of Columbia inspection	31,578	29,369	23,000	+ 1,100	- 7,469(5)
Field inspection spe- cial permit material	9,435	8,500	9,250	+ 300	+ 450(6)
Hawaiian inspection service	18,124	16,114	17,310	+ 300	+ 596(7)
Puerto Rico inspec- tion service.	18,557	16,535	17,795	+ 600	+ 660(8)
Total	639,318	568,550	536,516	+ 27,056	- 39,090
<u>Unobligated:</u>					
Salary reduction.	63,722	40,726	- - -	- - -	- - -
Working funds reduction	34,930	75,724	- - -	- - -	- - -
Total Appropriation	737,970	685,000	536,516	- 148,484 (1)	

(1) This reduction of \$148,484 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut	- \$40,726
Curtailments in 1934 working funds	- 75,724
Further reduction in working funds for 1935.	- 59,090
5% salary restoration	+ <u>27,056</u>

- 148,484

The reduction of \$59,090 in working funds for 1935 includes:

(2) A decrease of \$9,541 in the Import and Permit Service. This decrease contemplates the abandonment of certain phases of statistical work with respect to the importation of plants and plant products.

(3) A decrease of \$10,881 in the Port Inspection Service. This decrease will necessitate a reduction in the number of inspectors at four maritime ports.

(4) A decrease of \$32,905 in the Mexican Border Inspection Service. This decrease will necessitate the separation from the service of fourteen inspectors now located at thirteen Mexican Border ports.

(5) A decrease of \$7,469 in the District of Columbia Inspection Service. This decrease will necessitate a reduction in personnel engaged in inspection, treatment, and release of plant material.

(6) An increase of \$450 in the Field Inspection of Special Permit Material.

(7) An increase of \$596 in the Hawaiian Inspection Service.

(8) An increase of \$660 in the Puerto Rico Inspection Service.

These three items, (6), (7) and (8), are due to mathematical errors in distributing among the projects the subappropriation 5% salary restoration item.

Work Done Under This Appropriation

This appropriation is used to prevent entry into the United States of injurious insects and plant diseases by controlling and safeguarding the entry of plants and plant products. It involves the enforcement of (1) foreign plant quarantines and regulatory orders issued under the Plant Quarantine Act of 1912, as amended; (2) rules and regulations governing the entry into the United States of railway cars and other vehicles, etc., from Mexico; (3) the Act of 1905 governing the importation of living insects into the United States; and (4) regulations governing the shipment of plants and plant products to the mainland from Hawaii and Puerto Rico.

Project 1. Import and Permit Service: -- Continuation of this work is essential to limiting the entry of plants and plant products to those which represent the least pest risk, or to those which may be adequately safeguarded.

Project 2. Port Inspection Service: -- The continuation of this work at the principal maritime and Canadian border ports of entry protects the United States from the entry of injurious insects and plant diseases.

Project 3. Mexican Border Inspection Service: -- The continuation of this work at the principal Mexican border ports of entry protects the United States from the entry of injurious insects and plant diseases.

- Project 4. D. C. Inspection Service: -- Continuation of this work is essential in order that (1) certain types of plant material, because of the pest risk involved, may be given special examination and treatment, if necessary; (2) that plant material imported and distributed by the U. S. Department of Agriculture may be inspected and certified; and (3) that domestic plant material entering or leaving the District of Columbia may be inspected and the latter certified.
- Project 5. Field Inspection, Special Permit Material: -- Because of the impossibility of detecting certain types of plant diseases during the initial inspection it is important that a further inspection be made in the field of certain imported plants.
- Project 6. Hawaiian Inspection Service: -- Continuation of this work is essential to prevent the movement to the mainland of injurious insects and plant diseases known to occur in Hawaii.
- Project 7. Puerto Rican Inspection Service: -- Continuation of this work is essential to protect Puerto Rico against the entry from foreign countries of injurious insects and plant diseases and to prevent the movement to the mainland of injurious insects and plant diseases known to occur in Puerto Rico.

Cooperation is maintained with five States and two Territories, which contribute approximately \$83,370 to the work, annually.

Emergency Funds Applicable
Under This Heading

The following allotments have been made by the Public Works Administration for physical improvements under the Mexican Border Inspection Service project:

Federal Project No. 1,	Arizona, Nogales - Fencing railway car fumiga-	
	tion house reservation.....	\$2,000
Federal Project No. 2,	Arizona, Nogales - Repairing railway car	
	fumigation house for	
	treatment freight cars	
	from Mexico to prevent	
	Pink Bollworm spread.....	300
Federal Project No. 7,	Texas, Brownsville - Fencing railway car	
	fumigation plant.....	2,000
Federal Project No. 8,	Texas, Eagle Pass, - Fencing railway car fumi-	
	gation plant	2,000
Federal Project No. 9,	Texas, Eagle Pass, - Reroof railway car fumi-	
	gation house.....	1,800
Federal Project No. 10,	Texas, Eagle Pass, - Completing construction	
	and installation of	
	HCE volatilizer system	
	in car fumigation house...	1,800

Federal Project No.11,	Texas,	Eagle Pass,	- Repairing railway car fumigation house.....	600
Federal Project No.12,	Texas,	El Paso,	- Fencing railway car fumigation plant.....	2,300
Federal Project No.13,	Texas,	El Paso,	- Completing reroofing railway car fumigation house.....	500
Federal Project No.14,	Texas,	El Paso,	- Repairing railway car fumigation house.....	650
Federal Project No.15,	Texas,	El Paso,	- Completing construction and installation of HCN volatilizer system in railway car fumigation plant.....	1,600
Federal Project No.16,	Texas,	El Paso,	- Reconstruct 6 special gas- tight doors on car cham- bers of railway car fumi- gation house.....	10,300
Federal Project No.17,	Texas,	Laredo,	- Fencing railway car fumi- gation plant.....	2,300
Federal Project No.18,	Texas,	Laredo,	- Reconstruct 8 special steel gas-tight doors on car chambers of railway car fumigation house....	10,850
Federal Project No.19,	Texas,	Laredo,	- Plaster and paint inter- ior walls of railway car fumigation house.....	3,250
Federal Project No.20,	Texas,	Laredo,	- Repairing railway car fumigation house.....	600
Federal Project No.21,	Texas,	Presidio,	- Fencing railway car fumigation house.....	2,000
Federal Project No.22,	Texas,	Presidio,	- Repairing railway car fumi- gation house.....	600
Federal Project No.28,	Texas,	Brownsville	- Construction of a fireproof railway car fumigation house on the site of the old house which was wrecked beyond re- pair by the storm of Sept. 4 and 5, 1933.....	15,000
Total.....				<u>\$60,950</u>

(z) Certification of Exports

Appropriation, 1932 \$30,300
 Appropriation, 1933 20,200
Appropriation, 1934 18,558

Estimated Obligations, 1934. 15,188
Budget Estimate, 1935 16,120

Increase, Budget 1935, compared with
 Estimated Obligations, 1934 932

PROJECT STATEMENT

	1933	1934 (Estimated)	1935 (Estimated)	Increase or 5% Salary Restoration	Decrease Working Funds
<u>Obligated:</u>					
Certification of Exports	\$17,741	\$15,188	\$16,120	+ \$893	+ \$39 (2)
<u>Unobligated:</u>					
Salary reduction	1,970	1,191	- - -	- - -	- - -
Working funds reduction	489	2,179	- - -	- - -	- - -
Total Appropriation	20,200	18,558	16,120	- 2,438 (1)	

(1) This reduction of \$2,438 below the appropriation for 1934 consists of:

Impoundment of 6-2/3% of 15% pay cut - \$1,191
 Curtailments in 1934 working funds - 2,179
 Increase in working funds for 1935 + 39
 5% salary restoration + 893
 - 2,438

(2) The increase of \$39 in working funds for 1935 is due to error in computation of the 5% salary adjustment item.

Work Done Under This Appropriation

The work conducted under this appropriation item consists of the sanitary inspection and certification of domestic plants and plant products intended for shipment to foreign countries, in order that these products may carry such certification as may be required by the country of destination as a condition of entry. A nominal charge is made for this work.

During the fiscal year 1933, the quantity of material certified was 200% greater than in 1932, and there was an increase of 70% in the number of certificates issued. Judging from the first six months of the Fiscal Year 1934, the quantity of material that will be certified this fiscal year will be approximately the same as during the fiscal year 1933.

Cooperation is maintained with eight States, which States contribute annually an aggregated of about \$3,350 to the work.

Authorization Covering Purchase of Passenger-Carrying Vehicles

A reduction from \$33,625 to \$12,750 is submitted in the passenger-carrying vehicle authorization for 1935. It is not certain that available funds will permit the purchase of even the automobiles listed in the Budget schedule, but authority is desired for their purchase if funds prove sufficient, as they represent only the most urgent transportation needs. With three exceptions, these vehicles are replacements. These three additions are planned in order to permit entomological field workers to cover more economically and effectively the territory assigned to them.

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